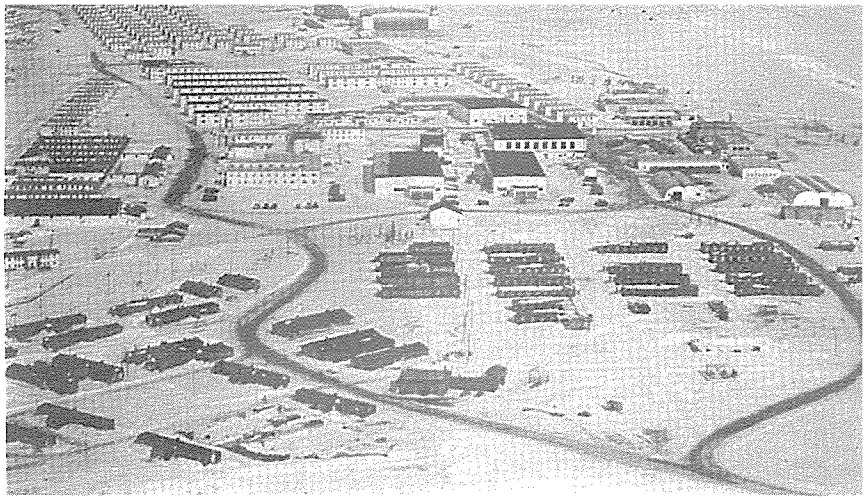
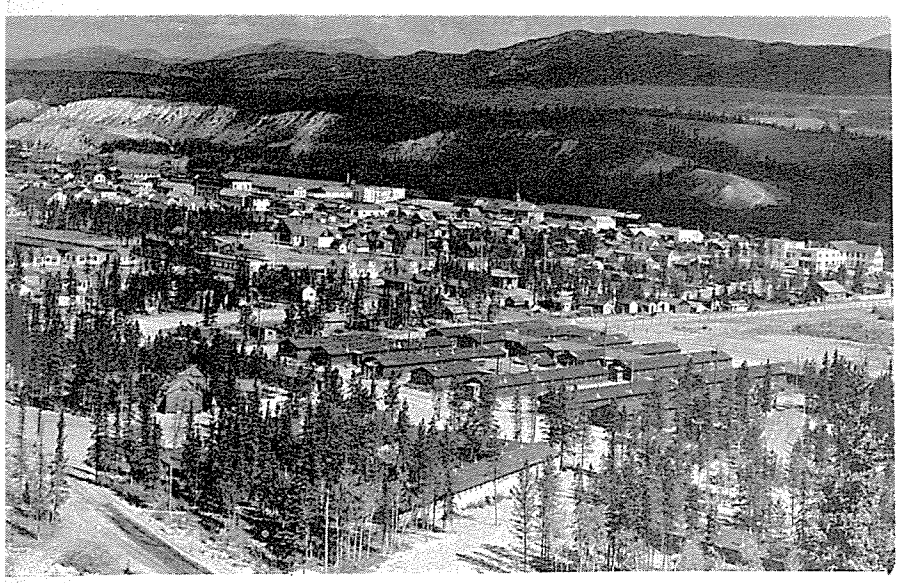
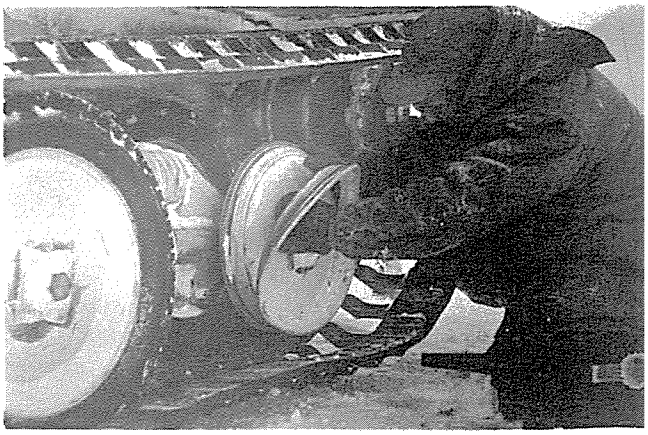
RCEME TECHNICAL BULLETIN







Volume 9, Number 2 April 1964

This Bulletin is published and distributed by the Director of Electrical and Mechanical Engineering as a means of periodically disseminating information on technical matters, current and future Corps policy, and items of general interest to the Corps of RCEME. It is not to be considered as authority for any action. Its contents should be made known to all interested RCEME personnel.

DEADLINE FOR NEXT TWO ISSUES

June 15th for july issue
sept 1st for oct issue

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COVER (Clockwise from the top) Fort Churchill from the air. Steak is served in the wannegan; l to r, Mr Hilland, S sgt Currie, S sgt Almey, Maj Betts, Cfn Simon and WO1 Brown (see also page 7). Sgt Vic Snider changing a bogie wheel at -45 degrees with 15 mph wind, Exercise Musk-Ox. Whitehorse YT, 1949. Snowmobile in trouble on Exercise Musk-Ox. A workshop set up in the Arctic; showing an Armoured Corps Shelter and a 5-man tent (see also page 6).

LAST CALL for the Director's Prize Essay Competition. Remember the deadline is June 30, 1964; the winner will likely have his first draft completed by the end of May.

ARCTIC TECHNICAL BULLETIN

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This publication is issued under the authority of Col A Mendelsohn, CD, Director of Electrical and Mechanical Engineering. The contents have been edited and approved by Lt Col CMR Elmsley, CD.

The Bulletin is published to assist RCEME personnel in keeping abreast of current trends and developments and to circulate interesting news about the Corps. The information and statements herein are not to be quoted as authority for action.

EDITORS

Lt Col CMR Elmsley, CD
Mr DC Paterson

ASSOCIATE EDITORS

Lt Col H Goodfellow, MBE, CD
Lt Col WG Hamilton, MBE, CD
Lt Col HM Robinson, CD
Lt Col GT Kirk, MBE, CD
Col GW Thompson, CD
Lt Col WM Dalrymple, MBE, CD
Col KR Ward, CD

EDITORIAL

General McNaughton, our beloved Colonel Commandant, has retired, ending one facet of a most remarkable military career. From a 'Provisional Lieutenant' in 1909 to Brigadier General in 1918 is no mean accomplishment. But then, General McNaughton is an extraordinary man. It has been said with much truth that he has had many careers, any one of which would satisfy an ordinary man.

We wish him well.

* * * * *

In this issue of the Bulletin we publish accounts of retreats - rather, planned withdrawals - by the Corps. After years of service RCEME is leaving Fort Churchill, the Northwest Highway System, and Hagersville Camp. The first two are long stories where RCEME and the Canadian Army are concerned; many good things happened and some bad things and unhappy events, too. Among the latter was the drowning of Major Frank Coultish in the Pelly River, YT, while on a visit to 16 Company at Whitehorse on personnel problems.

Our story on Fort Churchill started with Sgt CG Cherry who supplied names and dates - a very sturdy skeleton - but he would be the first to agree it needed some 'meat'. This we obtained from old copies of The RCEME Quarterly, with considerable help from Capt HA Rosson.

Whitehorse, Fort Nelson, and all the lesser-known places in between where RCEME carried out its maintenance make a long story - 18 years to the day. Again the base was supplied by someone on the spot - Major AR Thomsen. Again we searched old records and photo files, asked questions of available people - WO1 DJ MacDonald for one - and came up with a readable story, we think.

Exercise Musk-Ox sort of ties the two 'outposts' together as it started at Churchill and ended at Fort Nelson; Lt Col AG Sangster (Retired) came up with a few reminisences.

Many interesting happenings and important names have certainly been missed through lack of records, but these will have to wait until a more complete history of RCEME in the north is written.

However, retreating or advancing — in the Middle East, Cyprus, or wherever called upon to serve - RCEME may be expected to carry out its maintenance role as long as the Corps exists or, as provided in the Agreement for the safekeeping of the Rose Bowl, until "Army Headquarters designates a corps to perpetuate The Corps of RCEME".

Our Colonel Commandant Retires

After eighteen years of direct association with our Corps, General The Honourable AGL McNaughton, PC, CH, CB, CMG, DSO, CD retired on the 18th of March 1964. He has held these appointments:

Honorary Colonel
12 March 1946 - 18 March 1949

Honorary Colonel Commandant
19 March 1949 - 19 September 1962

Colonel Commandant
20 September 1962 - 18 March 1964.

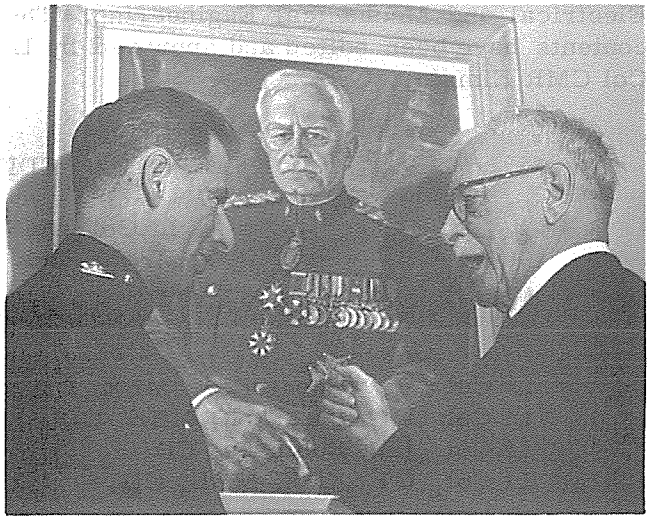
An afternoon reception was held at The Corps of RCEME Officers' Mess at Kingston on the 10th of April for General and Mrs McNaughton. After greeting the guests and the officers and their ladies, Colonel Mendelsohn invited Mrs McNaughton to unveil the Robert S Hyndman portrait of her husband.

During the evening the General was dined out by CA(R) RCEME Officers from Quebec and Central Commands.

At 1930 hrs S sgt WW Monkman sounded "Officers' Dress for Dinner" and at 2000 hrs "Officers' Dinner". The bugle used was the sterling silver bugle presented to The Corps on its sixth birthday (15 May 1950) by General McNaughton, then Honorary Colonel Commandant. The officers and their guests went into dinner to the traditional "Roast Beef of Old England" played by the Band of the Royal Canadian Corps of Signals conducted by Band Sgt Major (WO1) JA Perks, CD.

After the Loyal Toast, Colonel Mendelsohn spoke a few words in honour of General McNaughton emphasizing his many careers, and then presented him with an engraved sterling silver cigar box.

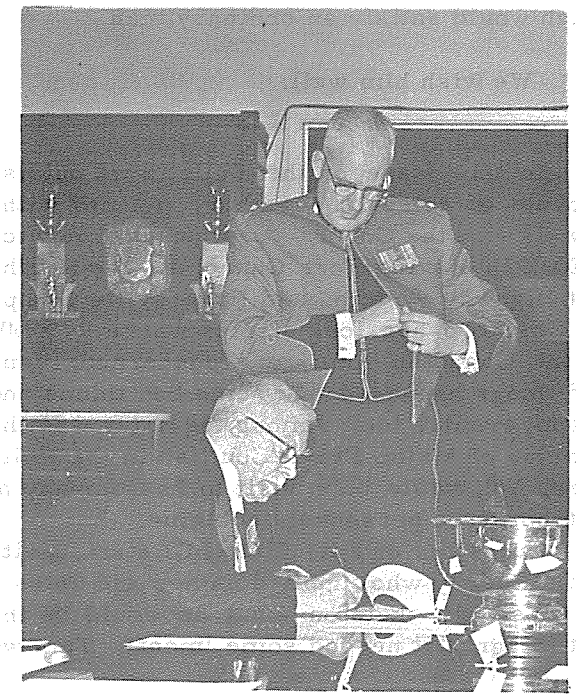
In his reply, the General briefly reviewed his role of collecting the mechanical and most of the electrical engineering of the army into one Corps during his appointment of GOC-in-C, First Canadian Army. He then reviewed our progress and achievements through the following years culminating in his words of inspir-



Col Mendelsohn and Gen McNaughton before the newly unveiled portrait.

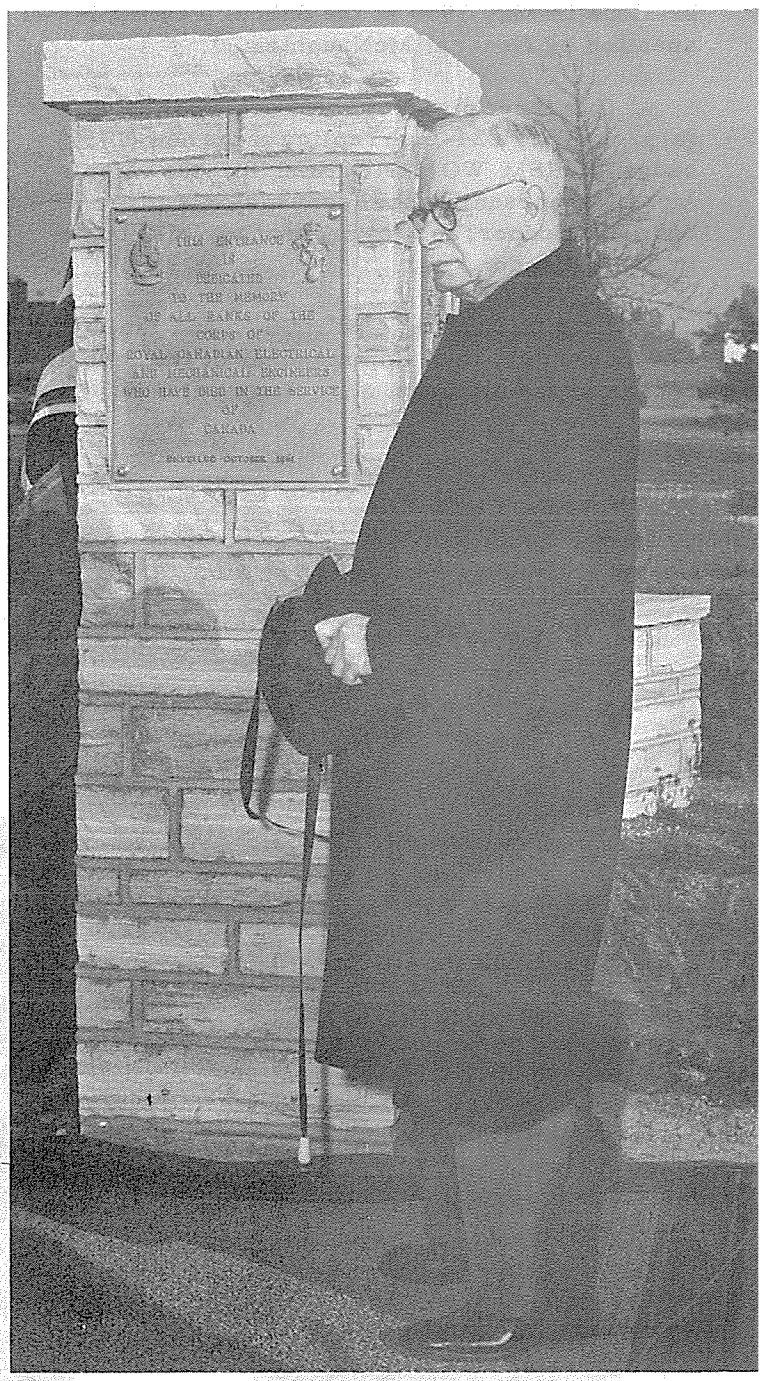
Gen McNaughton after unveiling the Memorial Gate at the RCEME School, Oct 1961. →

The signing ceremony: the General, Lt-Col Hodgson and the Rose Bowl.



ation and faith in RCEME by presenting a sterling silver Rose Bowl to The Corps dedicated with the following text:

"In Commemoration of the first two Decades of
The Corps of Royal Canadian Electrical and Mechanical Engineers
and to Express Faith and Confidence in the
Continued Service of the Corps to Canada."



After dinner, a signing ceremony took place in the Library. A Trust Agreement was signed by the General and the Director. This Agreement appointed the RCEME (CA(R)) Corps Officers' Fund, Trustee to receive the Rose Bowl "for the use, benefit and advantage of The Corps of Royal Canadian Electrical and Mechanical Engineers". Additional signers of the document were Colonel KR Ward, Lt-Col RH Hodgson, Major HW Chapman, Capt WD Sneddon, Lt BL Code and Mrs McNaughton.

The Agreement provides that should the Fund be unable to carry out the purpose of the Trust by any reason, that the Trust will be transferred to The Canadian Council of Associations and Corporation of Professional Engineers. Should the Council be unable to accept the Trust at a future date, the Executive of the Fund will designate another Trustee.

The Council or other Trustee so appointed would transfer its Trust to an appropriate Trustee on the happening of one of the following events:

a. when the RCEME (CA(R)) Officers' Fund is re-established, the Rose Bowl will be returned under the terms of the original Trust, or

b. when a new corps is organized, amalgamating the electronic, electrical and mechanical engineering of the Canadian Army into one corps, or

c. when Army Headquarters designates a corps to perpetuate The Corps of RCEME.

By such an Agreement, General McNaughton leads the way for other donations of silver, with reasonable certainty that such gifts will remain with The Corps for the use originally intended.

The highlight of the sixth birthday celebrations in May 1950 at the School was the inspection by General McNaughton.

Our three pictures, clockwise, show him (a) presenting a 24-inch replica of the new (1950) badge to RSM WO1 G Collins for the Men's Mess; (b) presenting the drum major's mace to Sgt Jack Cooper; and (c) presenting 'his' bugle to Sgt W Hendon.

Brig G. Walsh, CBE, DSO, and the late Col JR Dunlop, then Commandant of the School, appear in the pictures.

RCEME IN FORT CHURCHILL

223 Workshop RCEME, 9 Mar 59. Tractor train ready to leave on recovery job. (l to r) S sgt WR Currie, Maj CH Betts, Capt HA Rosson, Cpl WF McGirr.

Through the years many RCEME personnel have stood a tour of duty at Fort Churchill, and from year to year new faces kept appearing. The despairing look they gave you when getting off the train during the winter months chilled you through more than the -35 deg temperature and the 2300 windchill. (Winter or summer, who could tell?) When the same person was due to leave however the following year, the frozen tears on their cheeks gave some indication that they were going to miss tramping through the snowdrifts as high as a house and bucking the strong winds off Hudson Bay.

How did it all start? How did the Army get into the act? How RCEME?

Churchill already existed as a port for the shipment out of Canada of Western grain; it was seen as a short water route to the British market. Then came the war and the United States airforce needed a landing field on the great circle route to Europe. Churchill was already served by a railway and was the ideal spot in which to build the air strip.

As so often happens, this military installation formed a nucleus around which others gathered as the years went by. In due course of time it had grown to the point where it harboured an RCAF Search and Rescue facility; was a resupply base for the building of the Dew Line; had US Army training and test facilities; was an important station in high altitude research for the International Geophysical Year;

supported a Department of Transport weather and communications establishment; contained the Defence Research Northern Laboratory, and many other transient and permanent installations belonging to the Department of Northern Affairs, RCMP, etc.

The Canadian Army was chosen as the housekeeper for this giant camp on the tundra and there was established in the camp a winter warfare training wing and missile testing facility. RCE provided all the familiar municipal services; RCASC fed and fuelled the camp; RCOC supplied and resupplied; and RCEME repaired tanks, snowmobiles, washing machines and bread-making machines – in fact all the variety of mechanical and electrical equipment required for both a military and civilian community.

In the beginning (as told by an old timer - in the year 1946) RCEME at Fort Churchill, Manitoba, had a modest start: 223 Workshop, then part of 10 Company, Winnipeg, opened in the old Canadian National Railways roundhouse at Churchill. Vacancies were filled from various RCEME units across Canada, the largest number being drawn from Prairie Command.

During the late summer of 1949, 223 Workshop, under the command of Capt AB Otto began a move that gladdened the hearts of all RCEME personnel at Fort Churchill – at last a building of their own! The new site chosen was D-11, a spacious well-lighted (and best of all) brand new building, built by US Army Corps of Engineers.

Sgt Wilson and Cfn Young

Maj DC Smiley, DADEME, was appointed CO of the newly-formed unit which became known as 18 Company RCEME, composed of a company headquarters and 223 Workshop. Capt Otto remained as OC Workshop and also became 2IC of the company. On the 1st of May 1950, 18 Company held its first change of command. Taking the reins from Maj Smiley was Maj MA Reid. It was during his tour that the workshop actively engaged in the support of Exercise Sundog 1.

For this exercise, a month-long winter scheme, RCEME manned an AWD of ten men commanded by Capt CG Provan, responsible for 2nd to 4th echelon repair of all equipment, and the recovery of vehicles, on the exercise.

The detachment was in two subunits; a heavy section of six men with a D7 Cat, a tels wannegan, a general workshop wannegan, and two Otaco 10-ton sleds; and a light section with a Penguin and four light 10-cwt sleds.

Two types of shelters were tried but both were difficult to erect so consequently most of the work was done in the open with winds up to 40 mph and temperatures of 10 to 45 below. A Herman Nelson heater blowing warm air onto both the mechanic and his work through canvas tubes helped tremendously.

Living accommodation was a wannegan and a five-man Arctic tent. The tent was heat-

RCEME AWD on Ex Sun Dog I. Front row: Sgt Wilson, WOI Brown, Cfn Scharf, WOII James, Capt Provan. Back row: Cfn Young, L/Cpl Mitchell, Sgt Gardner, Cpl Coughlin. Cfn Beatty, who was recovering from 'ice-worm' bite, is missing from photo.

ed comfortably by two Coleman gasoline-burning stoves. "The main hardship encountered living in a tent in the Arctic is suffered in the morning by the unfortunate soul who must climb out of a warm sleeping bag into the cold, struggle with frozen stoves and gasoline which will not burn, and make breakfast with his mates passing uncomplimentary remarks about him in particular and the Arctic in general from their snug positions, while waiting for the tent to warm up and for their morning cup of tea." Unquote.

Capt Otto left Fort Churchill and handed over command of the workshop on 1 Mar 51 to Capt JM Hewson, who remained for 15 months before handing over to Lt PH North. Capt CG Lawrence assumed command of 18 Company on 21 Sep 51, vice Maj Reid.

During the years 1951-52, the company and workshop played an important roll, engaging in the support of exercises such as Pole Star 1, 2 and 3; Muskox 2; and D Sigs trials.

Capt FJ McNaughton appears on the scene next, relieving Lt North in Aug 52, and again RCEME took part in winter exercises – Deer Fly, Prairie Tundra, and more D Sigs trials – devising many new northern recovery techniques and carrying out the 'chilling' repairs.

Maj GP Miggins took over from Capt Lawrence in Feb 53 and in Dec assumed the additional burden of workshop CO when the two were made a single command. Capt JL Calvert who arrived to command the workshop was appointed Control Officer under the new set up. They were succeeded in 1956 by Maj EC Ilott and Capt HA Rosson respectively.

Maj CH Betts assumed command of the company in Aug 58 and the next March a typical recovery job was carried out. But let Maj Betts tell it, as he wrote in a letter to the Director:

"Last week, the Camp Commander took

"... Penguin... ran through the ice of Herriot Creek..."

five Penguins on a 150-mile swing on the other side of the Churchill River. On Friday the Penguin occupied by the GSO2 ran through the ice of Herriot Creek, which they were using as a highway, about thirty miles from Camp as the helicopter flies.

"This morning (Monday) 18 Coy's tractor train left to pick up the casualty. In charge of the train is S sgt Currie, and his recovery team consists of Cpl Enstrom and McGirr, and Cfn Simon."

And later, on the following Saturday: "It was an interesting exercise which went pretty well according to plan. Reaching the site of the immobolized Penguin necessitated breaking trail over 50 miles of extremely rugged terrain and proved the most difficult phase of the undertaking. The recovery team reached its destination late Thursday. The operation of removing the casualty from its resting place in the 75-yard wide creek was fairly straightforward and was completed by 1500 hours Friday, 13 Mar, exactly one week after the ice gave way. With the casualty loaded securely in place on the 20-ton sleigh, the homeward journey was completed in about 20 hours."

Maj TR Heal and Capt JE Brewster arrived in 1960, to be replaced by Maj JJE Cuddihey and Capt V Roddick in '62. It was at this time that the workshop faded into the past history of Fort Churchill and, indeed, of the Corps. The entire unit became known as 18 Company; 223 Workshop ceased to exist on 18 Jun 62.

This brought about a few changed positions. Capt Roddick became 2IC of 18 Company and Workshop Officer and adjustments were made down the line. Instead of having wall-to-wall paper work with two complete administrative set-ups only one was required and everything was directed from 'upstairs'. Although the workshop had a hard time 'dying' it still operated technically the same.

RCEME at Fort Churchill have indeed served the Camp well through the years, with its many Canadian Army units besides the Canadian Government agencies and United States forces with their civilian contractors, such as Pan-American World Airways. Clever technicians like George Melvin and Brian Almey kept the '29' sets working to provide reliable communications over a radius of more than 50 miles of wind and snow swept barrens even after these sets had been retired by the rest of the army. Brave men welded the interior of the 'honeywagon' tank when a replacement didn't arrive on time. Recovery and repair under conditions requiring weeks of work and travel on the frozen muskeg; recovery crews fighting their way through subzero temperatures and blinding snowstorms to recover a D7 Cat that had gone through the ice somewhere at a small lake out in the frozen wasteland; and even chasing away polar bears that came looking for a handout!

RCEME also formed the bulwark of many regimentally-operated camp amenities; they provided people to help build and operate the hobby shop, a ham wireless station, skating and curling rinks. At carnival time they really shone, providing merry-go-round rides for the kids and entering prize-winning floats in the ever-popular parade. Maj Miggins was largely responsible for building radio station CHFC from a fairly primitive beginning into what became a fully efficient station providing 18 hours a day service to the north, with excellent programing and coverage. Capt Calvert and Capt Rosson carried on the service, with the latter having the unhappy chore of turning the station over to the CBC.

RCEME personnel who were allocated to key positions were lucky enough to bring their families to reside in PMQs. One of these was the late Cfn JW (Wally) Bargholz, who went from DEME with the injunction: "Be sure and send us some pictures and a story for the RCEME Quarterly." This he did and the six pictures reproduced here will bring pleasant memories to many.

At times most have felt this was a most rewarding experience, as here in Fort Churchill life moved at a rocket pace with the many varied social events at the messes, sports events of every description, hunting, fishing, and just plain sightseeing. The native Chipewan Indians and Caribou Eskimos add much local color to the rugged landscape. White whales, seals and dog-teams are commonplace, and the polar bears mentioned earlier are quite likely to face you through your kitchen window as you open the curtains in the morn-

ing.

But now with the winter of '63 came shocking news: rumours began filtering in from 'outside' that Fort Churchill would soon be closing as far as the Canadian Army was concerned. Rumours soon became fact, and to begin the rundown of personnel the axe was sharp and the first one posted out was Maj Cuddihey in Jan 64. Capt Roddick was appointed A/Commanding Officer until the rundown was complete and the unit reduced to Nil strength. What thoughts ran through everyone's mind – the days of reminiscing and wondering about the future began.

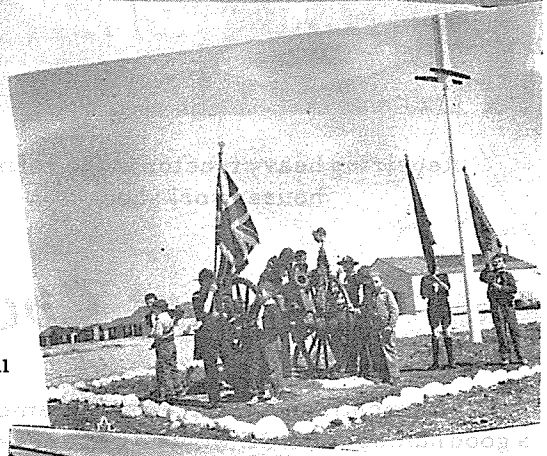
As 18 Company fades away to nonexistance we will be truly sorry for those in our Corps who will never have the opportunity of a posting 'north of the 58th'. RCEME, with its proud past history at Fort Churchill, when this article goes to print will have closed its doors in the frozen north. Never again will phrases such as "Churchillitis", "white-out", "wind-chill" be so freely spoken; they will fade away in the scrapbook of army lingo.

Farewell, 18 Company RCEME!

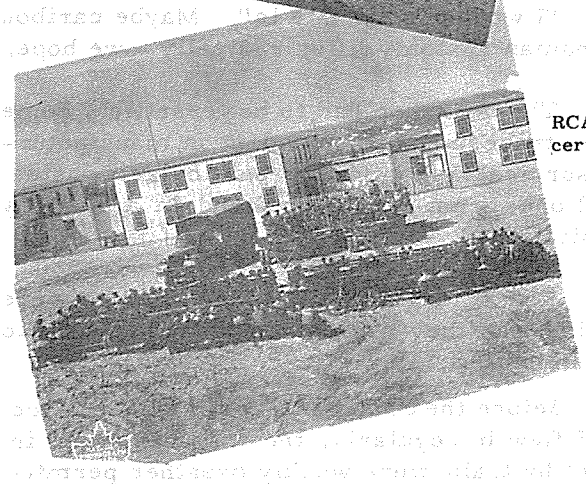
Can this be the Churchill River? Admiring its beauty are Cfn E. Proulx, Cfn O. Annis and L/Cpl Miller, 223 Workshop.

There is plenty of snow for toboganning

Long evening interferes with firework display 1 July.



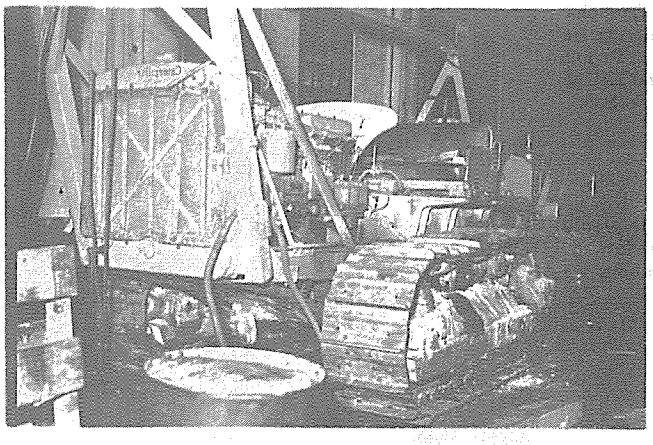
Boy Scouts and Wolf Cubs of the Churchill pack.



RCAF NWAC Band concert 1 July.

Baseball is always popular.

Highlight of life in Fort Churchill - Arrival of the train!



Repairing heavy tractor in the round-house/workshop

Train crew on CNR locomotive housed in RCEME 'workshop' (l to r) Sgt WG Smith, B Shields, D Robinson, and Pte OE Annes.

Fort Churchill Postscript

Churchill should have many memories for a good number of RCEME who were never really posted to the establishment. In the late forties and early fifties the winter trials were in their heyday and during November-April the establishment was kept at nearly double strength by attachments from the banana-belt area shops in the rest of Prairie Command. While no one actually volunteered for the duty, most seemed not to mind it too much, and some probably enjoyed it.

Then there was a well-known medical officer gutting a caribou, who pulled out one organ, examined it carefully, and frightened the lads standing around by saying, in a puzzled tone, "I wonder what this is". Maybe caribou and human anatomy differ radically - we hope.

The workshop had to be versatile. Some of the tradesmen became adept at manufacturing surgical instruments - particularly obstetrical ones - not normally found in a military hospital.

For a long while electric shavers were forbidden - they played havoc with the radio transmissions.

Before the Canadian Pacific Airways and USAF flew in regularly, the only way to get in except by train were weekly (weather permitting) RCAF schedule flights made in an old

Dakota equipped with parachute seats and long range fuel tanks - no smoking, no food, little heat. One former DEME told the story of starting back from Churchill with the plane interior at -30°F. It warmed up to -10°F by the time they reached Winnipeg. Another time the AAQMG Prairie Command started back to Winnipeg on the sched only to reach home three days later by train from North Bay.

EXERCISE MUSK-OX

"On my return to Canada in 1945", writes Lt-Col AG Sangster (RCEME retired), "I found myself posted to the Directorate of Vehicles and Small Arms (DVSA) and was told that I had volunteered for 'Exercise Musk-Ox' as a technical observer. In due course I learned that this was an 'all-inclusive expenses-paid tour' to the Arctic Circle and back – if feasible.

"The vehicles for this trip were adapted by Lt-Col BD Irvin (RCEME retired) from snowmobiles built for the War Office for a possible invasion of Norway. The prototype was built by RCEME staff of the experimental workshop at Orleans, Ont, and was christened "Penguin". Champagne not being at hand, beer was used at the christening.

"The ground party, which was to travel in the snowmobiles, was assembled from many parts of Canada, USA and UK; many of us meeting for the first time as we boarded a special train in Winnipeg.

"By the time we arrived in Churchill at about 1900 hours 31 Dec 1945, many of us knew one another and what our jobs were supposed to be. I was an Armoured Corps Major travelling as a technical observer on vehicle behaviour. The only RCEME officer for the trip was Capt Ed Young who came from the Camp Borden workshop. The artificers and mechanics I met when we started to unload and check out the vehicles.

"RCEME facilities were pretty 'hairy' and accommodation for vehicle repair was a poorly-heated penthouse extension to a wooden frame building. When the doors were opened the wind and snow swept through at forty below zero disrupting work somewhat for a while. Work had to be carried out wearing arctic clothing and we were later to learn that working in the open was often easier than in a 'pseudo workshop' such as we tried to use in Churchill.

"The Penguins arrived with full strength glycol in the cooling systems and the spare stock of glycol was, of course, full strength and in unheated storage. With outside temperatures warming up occasionally to -35 degrees no further comment is needed.

"It took two days to unload the 15 Penguins and 2 tractors and another month to get them all running.

"Just to start things off smoothly, Capt Young fell on the mess steps after supper the night we arrived and broke his leg. This was on the way to the bar which we had not even found at that point. Maj Wally Young was flown in from Winnipeg to take over until Ed was back on his feet. At about this time Col JW Bishop (DEME at the time) arrived for a short visit. When we were introduced, his greeting was "What the hell are you doing with Armoured Corps patches – you should be wearing RCEME – come and see me when you get back". That's how I became RCEME.

"I remember Al Isaac who shamed the tractors into starting at Churchill freight yard and participated in the fastest engine change I ever saw to ensure that we didn't miss the party at Dawson Creek on the NWHS.

"Vic snider travelled in my crew and could diagnose a vehicle fault without opening his eyes if you told him the DND number.

"Joey Marazzo is remembered for his strength and sense of humor. Good driver, good mechanic and a good guy.

"Ed Brownwigg drove the same snowmobile for the full 3000 miles and did all his own repairs. Red McLean was an efficient mechanic with little to say and wasted no time.

"Ed Burkovski claimed to have a private line of communication to Moscow but Stalin was firing him because he hadn't reported any new vehicle problems in the Arctic.

"Tony McBride drove the lead snowmobile and broke trail all the way."

Programed Instruction

RCEME SCORES ANOTHER "FIRST"

By Capt WJ Shearing

INTRODUCTION

RCEME has established another first! "Programed Instruction" is now being introduced to assist candidates in preparing for the Pre-Group 4 Assessment. As far as we know RCEME is the first Corps in the Canadian Army to introduce programed instruction on a wide scale. DEME has recently arranged the purchase of the Encyclopaedia Britannica Press's TEMAC Programed Learning Material for the mathematics portion of the assessment.

WHAT IS PROGRAMED INSTRUCTION

What is programed instruction? Programed instruction is carried out by means of a course which consists of a numbered sequence of sentences or groups of sentences each called a "frame". In each "frame" there will be one or more "blanks". Here is an example:

The three smallest odd whole numbers are 1, 3 and 5.

The next odd whole number larger than 5 is the number _____.

Above we have a typical "frame". In this case, it is a group of sentences in which we find the "blank" in the last sentence. After the student fills in the "blank", he looks to the right of the "frame" and finds the correct answer, known in TEMAC terms as the "correct response". In doing this example we would find "7" shown as the "correct response". On seeing the "correct response", the student will receive immediately, a reinforcement of his correct answer or a "blocking" of his incorrect answer.

A SAMPLE PROGRAM.

To give you a better idea of the workings of this course, try the "frames" on page 13 This example is designed to teach an interesting fact about addition of whole numbers. The rules are as follows:

a. Cover the column on the right with a sheet of paper;

b. Read each numbered frame carefully, decide upon the correct answer and fill the blank;

c. Pull down the paper to check your answer with the correct one; and,

d. Go on to the next numbered frame.

ADVANTAGES OF THIS TYPE OF COURSE

The main advantages of using programed instruction are achieved through the "programed learning materials" used. Programed learning material has been written especially to communicate ideas to students, with sufficient planned repetition and review to fix these ideas. The material provides:

a. the constant participation of the student in the reading-learning process;

b. an immediate checking of answers with valuable reinforcement or blocking; and,

c. a vehicle to accommodate individual differences since progress can be at the student's own rate.

IMPLEMENTATION OF COURSE

There are three possible ways of implementing this course. The first is by using an "individual progress" class in which each student goes at his own rate with tests at preassigned points. The second method is by using a "block time" class with assignments on a

"block" basis and tests on a group basis. The final method of implementation is a combination of the two ways mentioned above.

ASSISTANCE FOR TEACHER

One definite improvement over the past system is that a Teacher's Manual is included with each TEMAC course. These manuals guide the teacher in his role, provide a course outline, and provide sample test questions and answers.

PRESENT STATUS

TEMAC Programed Learning Materials are now available for basic mathematics, basic mathematics - measurement, algebra, and trigonometry. They will be used by all trades in preparing for the assessment. The present science, physics and chemistry reference texts will remain in use. It is hoped to introduce TEMAC for these subjects in time for the 1965 assessment. A letter, HQ 3675-5 (ME 1) dated 12 Mar 64, has been sent to all Comd EMEs, DADEME HQ CBUE, and CO 56 CDN Inf Wksp outlining the distribution of over 1000 copies of the courses and over 400 copies of the respective Teacher's Manuals. This letter also states and we would like to emphasize that the standards for these subjects will be based on the complete material contained in each course. This portion of the Pre-Group 4 Assessment in Dec 64 will be based on TEMAC.

CONCLUSION

For some years the consensus has been that the academic reference material for the Pre-Group 4 Assessment has been inadequate. In many instances in the past, instructors did not have sufficient time to assist candidates. DEME has now provided an up-to-date solution to some of our problems regarding the preparation of candidates for the assessment. DEME is convinced that even the candidate who chooses to do these courses by "sneaking a peek" at the answer before filling in the blank will gain knowledge. Such an attitude is not advocated, but this is pointed out here to show what can be expected with the use of TEMAC. The introduction of programed instruction is one more example of the way in which RCEME is endeavouring to improve its present training facilities.

A SAMPLE TEMAC PROGRAM

Question	Answer
1. The three smallest odd whole numbers are 1, 3, and 5. The next odd whole number larger than 5 is the number _____.	7
2. We say that the first four odd numbers are 1, 3, 5, and 7. The first 5 odd numbers are 1, 3, 5, 7, and _____.	9
3. What is the next odd number larger than 9? _____.	11
4. The first 10 odd numbers are 1, 3, 5, 7, 9, _____, _____, _____, _____, and _____.	11, 13, 15, 17, 19
5. One of the purposes of mathematics is to find easy ways to do hard problems. Suppose we wish to add the first two odd numbers. The first two odd numbers are 1 and _____.	3
6. 1 + 3 = _____.	4
7. The sum of the first three odd numbers is 1 + 3 + 5 = _____.	9
The sum of the first four odd numbers is 1 + 3 + 5 + 7 = _____.	16

8. Now, we notice that:

(a) The sum of the first two odd numbers is 4
and 2 x 2 = _____. 4

(b) The sum of the first three odd numbers is 9
and 3 x 3 = _____. 9

(c) The sum of the first four odd numbers is 16
and 4 x 4 = _____. 16

9. The sum of the first five odd numbers is
1 + 3 + 5 + 7 + 9 = _____. 25
and 5 x 5 = _____. 25

10. 1 + 3 + 5 + 7 + 9 + 11 = 36, so the sum of the first _____ odd numbers is 36. 6
Also 6 x 6 = _____. 36

11. The pattern we observe above always works! By this pattern, we know that the sum of the first seven odd numbers is _____ x 7 = 49. 7
(Check this result by listing the first 7 odd numbers and adding them!)

12. To find the sum of the first eight odd numbers we can either:

(a) List these eight numbers and add them or

(b) Observe that, by our pattern above, the sum of the first eight Odd numbers is
8 x 8 = _____. 64

13. The sum of the first nine odd numbers can be found, using our pattern, by doing
_____ x _____ = 81 9:9

14. The sum of the first ten odd numbers is _____ (= 10 x 10). 100

15. The sum of the first twenty odd numbers is 400 (= x). 20:20

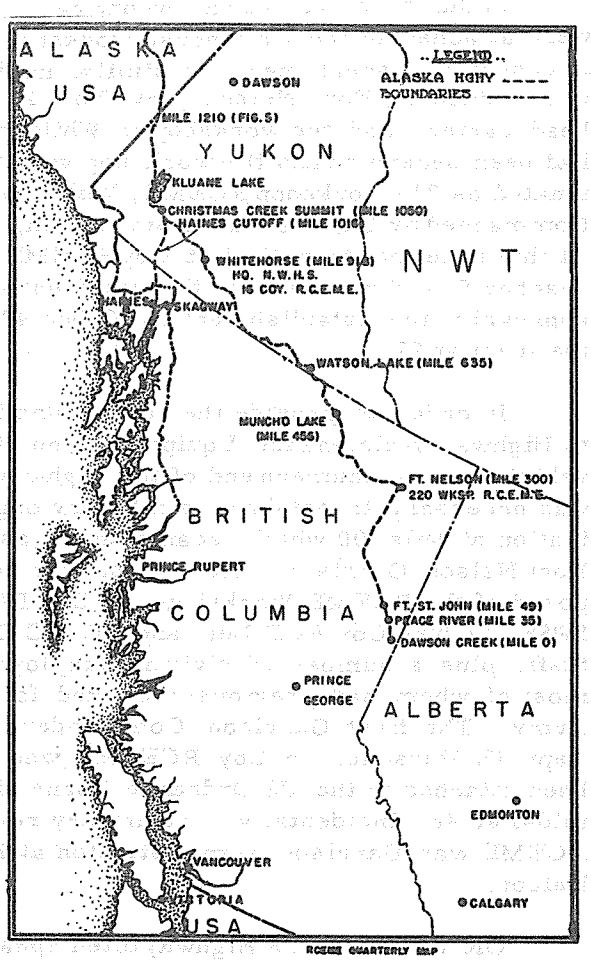
16. To find the sum of the first thirty odd numbers we can multiply 30 times _____. 30

17. Since 30 x 30 = 900, the sum of the first 30 odd numbers is _____. 900
(If you don't believe it, list these thirty numbers and add!)

18. Find the sum of the first 12 odd numbers, using the pattern we have shown. This sum is _____ = _____ x _____. 144: 12: 12

18 Years of 'Temporary' Operation 16 Coy RCEME

with Major AR Thomson, OBE



On 1 Apr 46 the Canadian Army took over temporary operation of the Alaska Highway from the US Army. This ceremony was witnessed in Fort Nelson by a few interested onlookers who gathered to see the Stars and Stripes run down and the Canadian Ensign hoisted in its place. It is unlikely that any of those present realized that temporary operation of the Highway - now the Northwest Highway System - would continue for exactly eighteen years. On 1 Apr 64 it again changed hands, this time to the Department of Public Works.

Background

Although early records on the repair system on the Highway are scarce, the majority having been destroyed by a fire on 28 Jul 47, it has been established that prior to the takeover of operations on 1 Apr 46 by the Canadian Army, the US forces maintained workshops in Fort Nelson and Whitehorse with Workshop Detachments at each Maintenance Camp and at Dawson Creek. In addition, several mobile repair groups maintained a constant patrol of the Highway. To staff this organization the US employed approximately 550 personnel fully occupied in the task of maintenance and repair of about 2300 vehicles and engineer equipments.

In Mar 46 the Directorate of Electrical and Mechanical Engineering dispatched Major JS Kitto, two captains and about nine other ranks to make initial preparations for the takeover from the US forces. In addition, about 45 civilians were hired and divided between Whitehorse and Fort Nelson to staff the workshops and provide some continuity of operations during the takeover phase.

On April 1 the US Army handed over the responsibility for maintaining the Highway to the Canadian Army and RCEME became the repairmen; their job was "to inspect, repair and recover all vehicles and mechanical equipment on the NWHS".

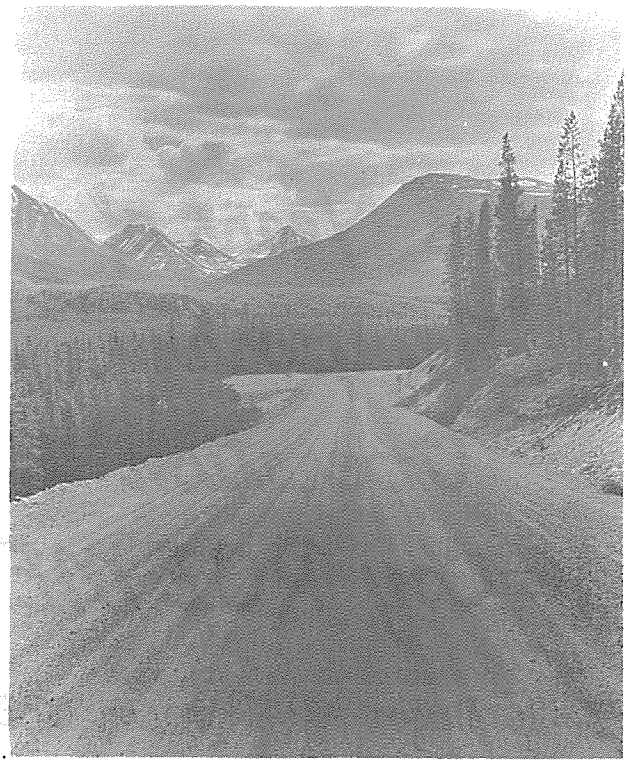
In Jun 46 an additional twenty personnel were attached to the Whitehorse workshop but it cannot be ascertained if a similar number were added at Fort Nelson. By Nov 46 the headquarters and the workshop in Whitehorse had been separated and the workshop was designated as 219 Workshop RCEME, Whitehorse. Commanded by Capt McKay, Fort Nelson, BC. At this time the strength of 16 Coy RCEME had reached 94 and remained at this level until the approval of the Establishment on 10 Dec 47 set the level at 97.

In order to provide the repair functions to Highway Maintenance Equipment and other vehicles on the southern end of the Highway, it was necessary to establish a military organization at Mile 300 which became known as the Fort Nelson Garrison. This group was composed of the RCEME Workshop, 14 Coy RCOC SPSS, 17 Wks Coy RCE Det, and RCASC Cook Staff, plus a number of civilian employees, most of whom had previously worked for the Army. The first Garrison Commander was Capt JE Parsons, 16 Coy RCEME, who had been attached to the US Ordnance Corps since mid-Feb 46. Incidentally, a secondary role of RCEME was Garrison Administration at Fort Nelson.

Old timers on the Highway often speak of the good old days. While they were no doubt good they were a far cry from present-day conditions and comforts. Mile 300 was simply a widening of the Highway — no stores, cafes, hotels, banks, service stations, etc. Shopping involved a boat trip across the Nelson River to old Fort Nelson. Banking was done at Fort St John or Dawson Creek; the closest liquor vendor was in Pouce Coupe, 310 miles away.

Within the Garrison there were no PMQs, TMQs or even EMQs. This, however, was rectified by men anxious to bring in their families and capable of using a hammer and paint brush on various empty frame and tarpaper buildings.

Mrs Parsons was among the vanguard of wives arriving near the end of Apr 46. With the arrival of families, the need for schools arose, the first of which was liberated, scrounged or otherwise acquired, moved, renovated and furnished by local spare time efforts, finally opening its doors to 8 or 10 pupils in Sep 46.



Looking North at Mile 705

Among the many things we take for granted today which presented a problem in 1946, was good drinking water. This commodity was hauled by tank truck weekly from Steamboat Mountain, a distance of 56 miles. Individual family supplies were stored in one or two milk cans at each home and used sparingly for drinking and cooking. Water for other domestic purposes came from two wells which were badly contaminated with oil.

Heating was by oil heater or wood stove or a combination of both. The oil heaters due to their age were somewhat unreliable and in winter two men were kept on constant patrol watching for stove failures. This duty was particularly important at night, since a failure could result in a freeze-up in very short order. It was not uncommon to be awakened at any hour by someone dismantling your stove carburetor.

In the early months of 1946, Exercise Musk Ox (which started at Fort Churchill) appeared from the bush, coming out along the Fort Simpson Trail after fighting the problems

of an unusually early spring break-up.

In December 1946, it was decided that a permanent Workshop Detachment was required between Fort Nelson and Whitehorse and with this in mind, Watson Lake Detachment, Mile 635, was created. This detachment still exists and consists of a staff sergeant, a corporal and four civilians.

On 1 May 47 civilian travel over the Highway ceased to be limited by special permit. Lifting of this restriction saw the start of tourists heading north. Among those going north at this time was Capt Parsons who took his release and started a motel at Mile 497, now known as the "Laird River Lodge".

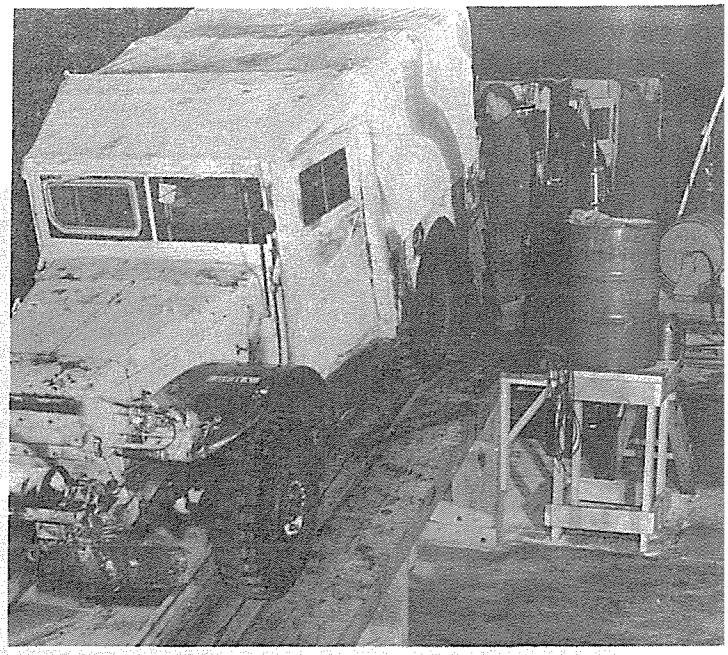
He was replaced by Capt RL Davis at Fort Nelson. In addition Major Kitto was replaced by Major JW Blatchford who remained in Whitehorse until 1949; Capt WE Ellis took over the workshop.

In 1947 the workshop in Whitehorse was burned to the ground, completely destroying all records and several pieces of equipment and it was at this time that RCEME moved from the Dowel area in Whitehorse to the Services area where the US were dismantling their refinery in the final stages before evacuation.

In 1948 the decision was made to create a Workshop Detachment, similar to that in Watson Lake, to be located at Destruction Bay, Mile 1083. A detachment was also created at Fort St John, Mile 49, but this was moved about one year later to Dawson Creek. In December of 1948 the Fort Nelson workshop, then known as the 16 Company RCEME Workshop, was redesignated as 220 Workshop RCEME.

In 1949 Major JW Blatchford was posted and replaced by Major WM Dalrymple and Capt RL Davis was posted and replaced by Capt TR Palfrey who was at Whitehorse prior to his move to Fort Nelson.

In Jan and Feb 50 Exercise Sweet Briar, a joint United States and Canadian Arctic exercise, was conducted over the Alaska Highway. This exercise involved AWD operations for the southern end of the road at Fort St John, Trutch, Mile 308 and Muncho Lake, and provided a busy time for the RCEME workshop at Fort Nelson.

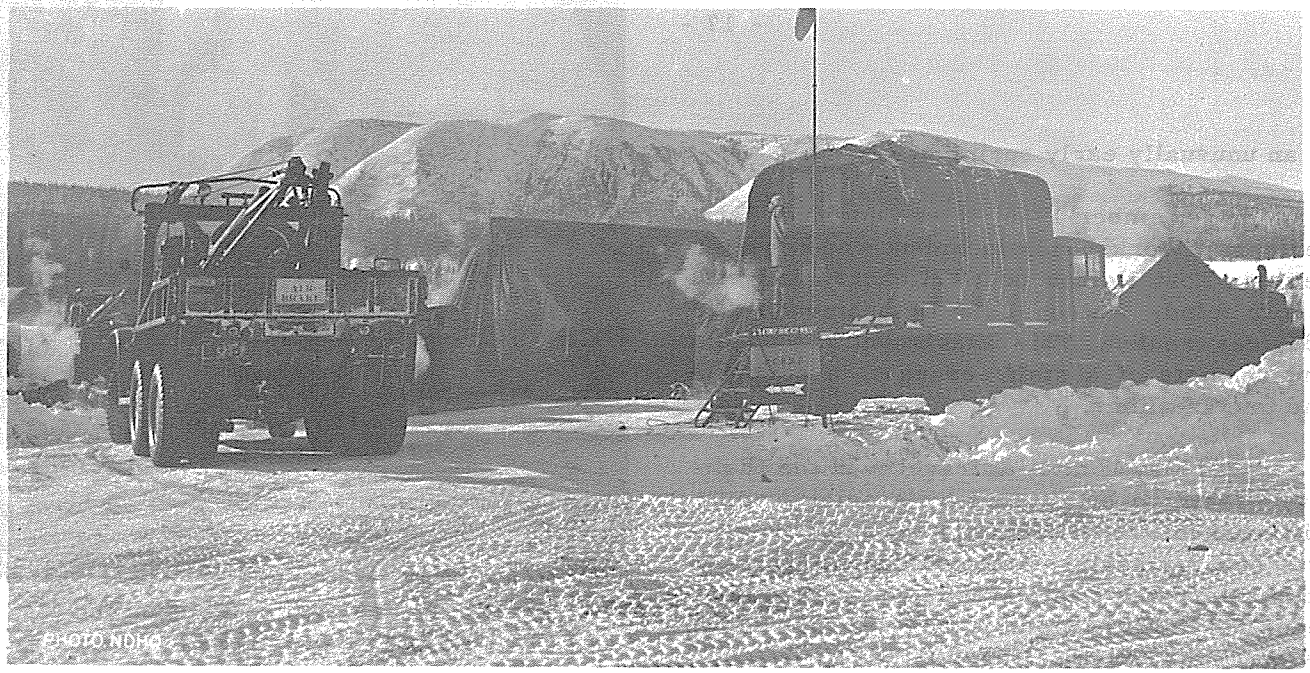


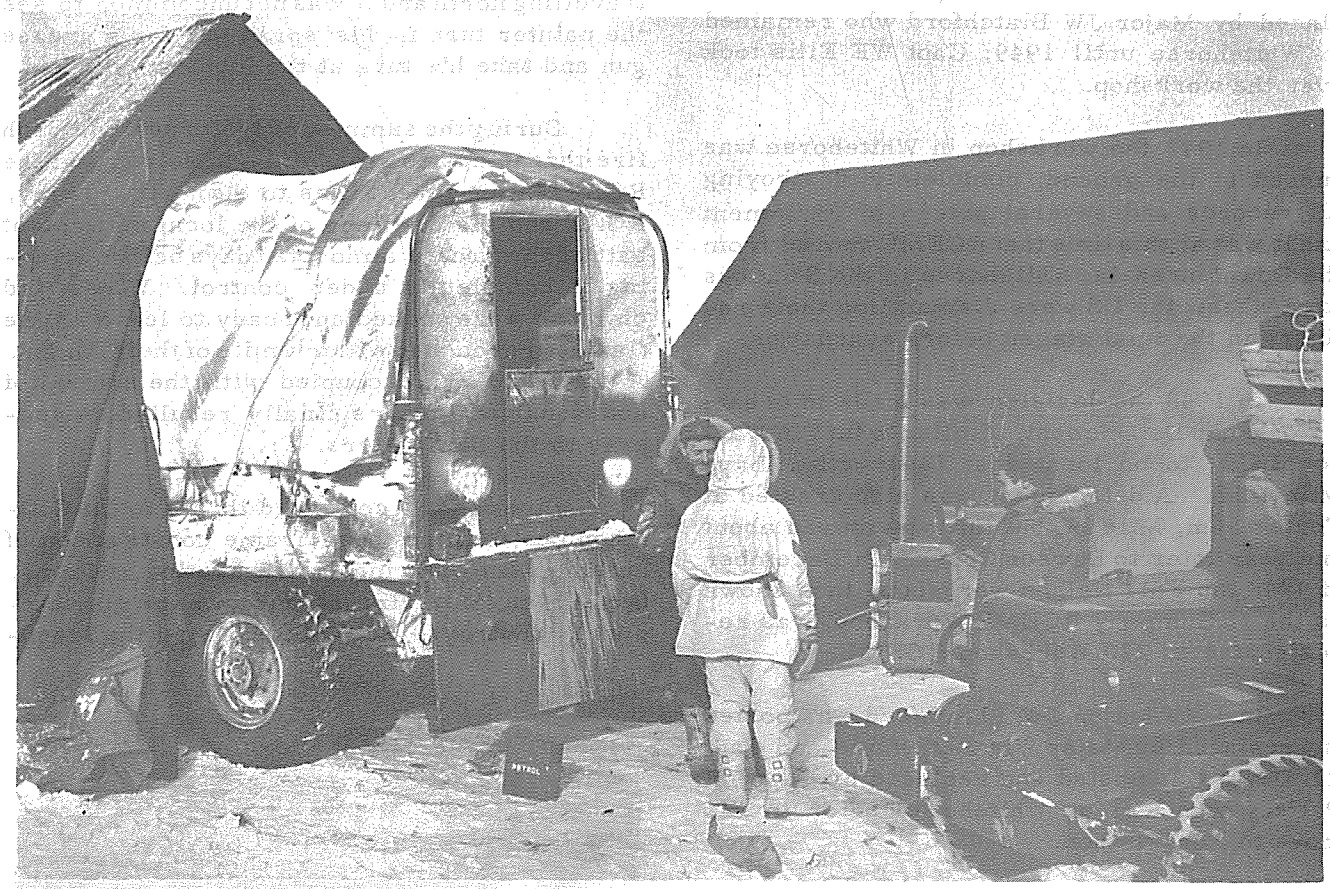
Servicing Vehicles on Production Line in Whitehorse

In Whitehorse the workshop operated two ten-hour shifts daily to service all equipment travelling north and it was not uncommon to see the painter turn in his spray gun for a grease gun and take his turn at the lubrication rack.

During the summer of 1950 a serious bush fire threatened to wipe out Fort Nelson and the RCAF Station seven miles to the north. Army, RCAF and all civilians of the local settlement battled the fire for almost ten days before bringing it completely under control. Wives and children were packed and ready to leave as the flames approached within a mile of their homes. A change of wind coupled with the arrival of additional bulldozers finally resulted in success to the firefighters.

Fire posed a continued threat to the Garrison due to the wooden frame construction of buildings and their inadequate heating systems. On 28 Jan 51 a fire of unknown origin completely destroyed a building housing the Mach-

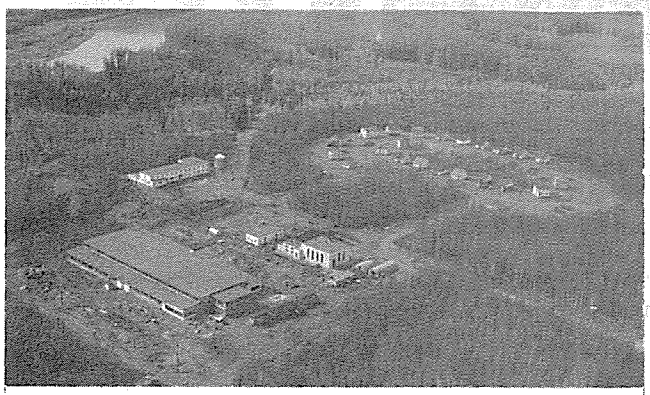




RCEME AWD at Burwash Landing (Mile 1093) during Sweetbriar

ine Shop, Electrical Shop and Welding Shop. This was followed by fires during the next few months which destroyed the HME Garage and the RCEME Battery Shop. All were attributed to stove failures.

During 1951 plans were made known for the construction of a new Garrison and Mile 295 was selected as the site. Work progressed slowly but surely and in Dec 52, 30 PMQs were ready for occupancy; by Christmas all were occupied. For the next six months work continued in the workshop at Mile 300, with employees travelling back and forth daily by bus. Finally, the new workshop opened and was in full swing by Jun 53. The location at Mile 295 was named the Muskwa Garrison, after the river which it overlooks.



Muskwa Garrison 1953

The most outstanding or unique work carried out by RCEME during this year was the recovery of several pieces of heavy equipment from the Donjek River following severe flooding. Thos operation was conducted by Capt Palfrey who was brought north from Fort Nelson for this purpose.

During 1952 Major ER Ambrose was posted to Whitehorse to replace Major WM Dalrymple. The garrison at Mile 295 continued in the construction stages while the old garrison continued to exist at Mile 300. By December of that year the PMQs were all occupied and, as the workshop had not been completed, bus service was used to transport personnel to and from work.

In 1953, Major Ambrose carried out a thorough review of the establishment, recommended many changes and suggested a net increase of eighteen persons, bringing the strength of the unit to 204. (There seems to be no record of how the unit reached from the 97 level set in 1947 to 197 during 1953).

PMQs Mile 295

In Sep 53 Capt Palfrey was posted and replaced by Capt CA Hurst who was to have his full spare of problems in the new workshop. These problems started with a bang one day in Nov 53 when a section of the workshop roof over the Spare Parts section fell in. Very fortunately, the collapse occurred at noon while all employees were at lunch, and as a result no injuries were incurred. The building was immediately closed and after tests and inspection, the remainder of the roof had to be supported by timbers. This situation made it necessary to attach all mechanical personnel out to the HME camps in the Southern Area, leaving only office staff and ancilliary shop employees in the building. About this time an appropriately-worded sign appeared at the workshop entrance:

"Muskwa National Forest -
Please Do Not Cut Timber".

In 1954 the workshop in Whitehorse was completely evacuated for a two-week period and all efforts were devoted to servicing US forces' vehicles in the area for exercises.

In 1955 the Muskwa Garrison Sergeants' Mess came into being through the efforts of military and civilian employees who developed it from an old contractor's building. This was further developed in 1959 into a composite Officers'/Sergeants' Mess.

In 1956 Capt RH McLeod replaced Capt Hurst as Garrison Commander at Fort Nelson and Major RA Auckland was posted to Whitehorse to assume command of 16 Coy RCEME.

In 1957 the collapse of the Peace River

Presentation of Medals at Mile 300, in 1951

bridge introduced unusual repair problems, particularly to the detachment at Dawson Creek which had the responsibility for maintenance and repair to many pieces of equipment unique to this one operation. In addition, RCEME supplied twenty-four-hour recovery service for a period of three weeks in the vicinity of the temporary crossing of the Pine River during the spring breakup.

WO2 RJ Young, NCO IC 16 Coy RCEME, Dawson Creek, from Jul 57 to Aug 58 wrote:

"My first unusual experience came when the Peace River Bridge collapsed. The detachment was called upon to repair equipment not normally a committment: the most peculiar being a Gray marine engine from the boats hired by the army. This was done by local repair. After a temporary bridge was installed across the Pine River, RCEME provided recovery services for essential transport during the spring thaw. This was a 24-hour-a-day service with two Diamond T Medium Breakdowns, one on loan from HME Fort Nelson and the other the recovery vehicle from 16 Coy RCEME Dawson Creek. This lasted for a period of about three weeks. All personnel were housed with Marwell Construction who were building the refinery at Taylor Flats."

On 6 Apr 59 a CProC section was established to carry out police duties on the Highway, working out of the Garrison.

In Jun 59 Capt MacLeod was posted and replaced by Capt WW Virtue, through whose efforts and direction the composite Officers'/Sergeants' Mess was formed. Major FR Kaye was posted to Whitehorse. During this period, with Static Reorganization being considered, a new establishment review was carried out and by 1961 the first steps were taken when RCEME lost all their non-technical vehicles to RCASC and, at the same time, assumed responsibility for and control of all unit maintenance and repair personnel.

Also during the period, the Fort Nelson Garrison Fire Department achieved high honours. This group progressed from a volunteer organization to a full time Fire Department in 1953. In 1957 they won a Certificate of Merit for Third Place as a Gp III Fire Department, presented by the National Fire Prevention Association. In 1958 they received Honourable

Mention and finally in 1959 First Place.

In 1961 Capt Palfrey was posted back for his third tour on the Highway and once again assumed command of the Fort Nelson Garrison. RCEME also branched out into a fire fighting service when it assumed this responsibility for the community at Watson Lake, Mile 635.

In 1962, all members of the Corps of RCEME were shocked to hear that Major Frank Coultish, D Pers (RCEME), was drowned on the Pelly River while fishing with Major Kaye, Capt DB Perrin and Capt RW Miller.

During 1962 and 1963 most of the military personnel and many of the civilians took an active part in three major search and rescue operations. These were for MacKenzie, Stockall and the widely publicized Flores-Klaben search.

A record of another interesting search is taken from local records dated 2 and 3 Apr 52.

At approximately 1900 hrs a request was received from Constable Davidson, RCMP, to assist in a search for a Negro tourist who had wandered away in the vicinity of the workshop, and was considered to be mentally unbalanced. A search party of 24 soldiers and civilian employees was organized at 1730 and all buildings, occupied or empty, in the settlement, were checked with no results. A road patrol was carried out from Mile 295 to Mile 308. HME at Mile 392, 245 and 201 were advised. Having no results from the above mentioned actions, it was decided that the man must have wandered into the bush. Patrols were despatched on snowshoes to make sweeps in from the Highway at 200-yard intervals, between the East and West limits of the settlement.

At 0030 hrs the man was found, sitting in the snow approximately one-half mile north of the Highway, with his hands and feet frostbitten and in an incoherent state. A fire was lighted and he was made comfortable with the aid of several parkas. One man was despatched to obtain stretcher and blankets and to send the ambulance in as close as possible. Constable Davidson procured a motor toboggan and sleigh which arrived in shortly after the stretcher and blankets. The man was loaded on the sleigh and transported out behind the motor toboggan as far as the ambulance, and then directly to the RCAF Station Hospital where he was admitted 0200 hrs.

31 Dec 62 was a big day for the Officers'/Sergeants' Mess and for the Men's Canteen. It signified on one hand the opening of the new Mess and on the other the opening of an extension to the Men's Canteen.

On 29 Apr 62 word was received in the wee small hours of the morning that an ammunition truck had exploded at Mile 229. A quick trip to the scene confirmed the situation and also revealed that the load was still burning and considerable live rockets were strewn along the right of way. Road blocks were set up and all traffic stopped pending the clearing of the area. Two Ammunition Examiners were flown in and with the aid of a number of personnel from all units the task of moving and blowing the live rounds was carried out over a period of two days, finally allowing the road to be re-opened to traffic.

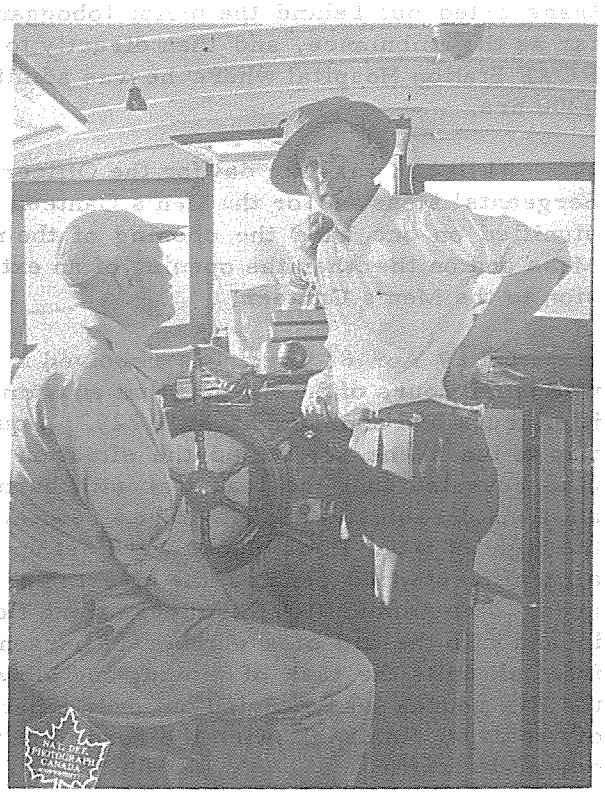
Major AR Thomsen was posted to Whitehorse in Aug 62 to replace Major Kaye. In Fort Nelson, a new Officers'/Sergeants' Mess and a new Men's Canteen were opened.

In 1963 a new Recreation Hall was completed and opened at Fort Nelson, a long-awaited addition to the Garrison.

No record of the Fort Nelson Garrison can be considered complete without mention of a few of the die-hard civilian employees who have been with us over the years.

RG (Simey) Simington, mechanic, and now a foreman in the workshop joined the operation in 1946. As well as taking an active and leading part in many community activities, he has been local movie projectionist throughout the entire period.

EE Bartlett arrived on the Highway in 1943 working for the Americans until the hand-over, then for the Canadian Army in his trade as an electrician. For a number of years Earl conducted, and was a member of, the EB Melody Five Orchestra. He is a member of the Photographic Society of America and well known for his postcards produced from Highway scenery.

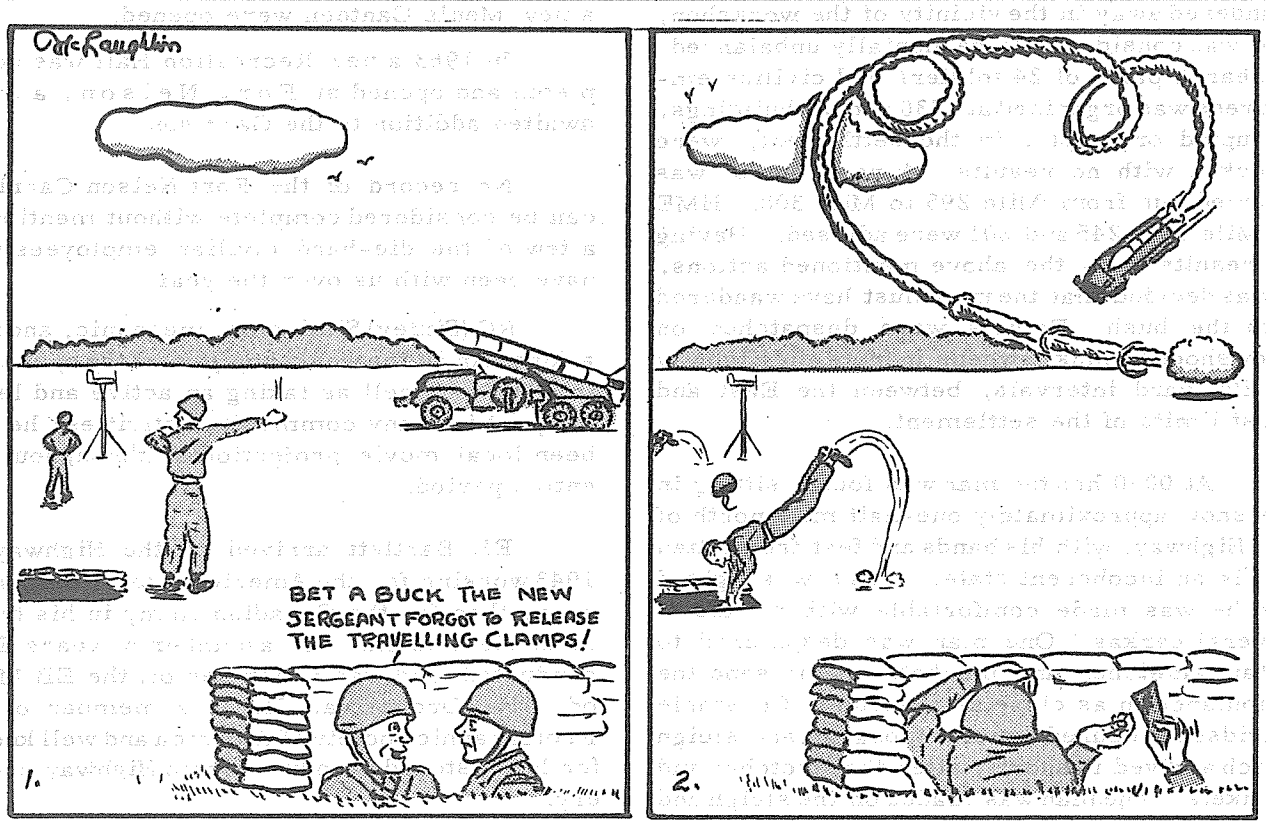


Col CR Boehm and Major WM Dalrymple in the wheel-house of "Turtle". This boat, which could carry 12, sleep 8, was allocated on a 2-week-per Corps basis for fishing trips and pleasure cruises. Based at Carcross on Tagish Lake, 80 miles of water to Ben-My-Chree was available for cruising, with some of the best trout fishing in the world.

No longer will RCEME have this tourist's paradise beckoning from the windows of their PMQs, with free transportation thrown in. Nor will they be able, like WO 1 DJ MacDonald who was in Whitehorse from 1955 to 1960, to tour Alaska in their own cars, while staying within a 500 mile radius of home.

WO 1 MacDonald and his wife visited Anchorage, Valdez, thence along the Richardson Highway, past the spectacular Worthington Glazier and on to Fairbanks and fabled Dawson City. Along the way are some of the greatest mountain peaks in North America and many well-kept monuments of the "Trail of 98".

RCEME's loss will be DPW's gain – if you want to travel like Mac did, get a job with Department of Public Works when you retire from the Army.



New Company Formed at the RCEME School

By Maj HW Chapman, CD

On 16 Aug 63 the Commandant The RCEME School issued an order which directed the establishment of a new company, to be known as Management Company.

The reasons behind the appearance of the new company, which officially made its debut on 21 Aug 63, are contained in this extract from the official order:

"There has been considerable increase in the number and variety of courses taught in Regimental Company and it has been decided that better control and improved results could be achieved by re-organizing the company. A natural and logical division of responsibility is between Management and Regimental training and on this basis Management platoon is to be re-organized on a company scale".

This decision to form the new company coincided nicely with the forthcoming establishment review of the School, and permitted company personnel sufficient time to review the area of RCEME Management training and the establishment requirements to meet it. In December 62 the need for such a company and its establishment details were agreed to at a meeting of the Army Establishment Committee. News of the company would have been premature indeed prior to AEC approval.

The company is organized on a two-platoon basis for instruction: Management Platoon and Workshop Procedures Platoon, with a small administrative element in company headquarters. Management Platoon is responsible for the teaching of modern management concepts and techniques. Workshop Procedures Platoon, as the name implies, is concerned with the detailed procedures governing our workshop and RCEME operations as outlined mainly in the Management part of the EME Manual.

The history of formal training in Management as such is relatively short in our Corps. By the same token, formal management training probably has a longer history in RCEME than anywhere else in the Army. This is not too surprising when one considers that recognition of the possibilities and requirement for such training first appeared in industry and business, and the similarity between RCEME and industrial operations made this new approach most appropriate for the Corps. Much credit must go to those RCEME officers responsible for recognizing and translating these concepts into a concrete training program for RCEME personnel.

The first trial venture into formal management was a course known as the Captain's Management Course presented in 1958. The success of this trial course was followed by an intensive preparation to develop training along the lines indicated by this course, which resulted in the first Intermediate EME Course in Feb 1960, designed for Majors and senior Captains. Similar courses were introduced at that time for other levels of RCEME management: namely the management portion of the Subaltern's EME Course and the Warrant Officers' Management Course.

The three weeks of management training for artificers was further developed and improved.

Since 1960 there has been almost a five-fold increase in the amount of management training given at the RCEME School in terms of training weeks and a considerable expansion in the number of courses given.

The 1963-64 course schedule listed eight such courses:

1. Intermediate EME
2. Subaltern EME/Direct Entry Officers (Management Portion)
3. Warrant Officers' Management
4. RCASC Warrant Officers' Conversion (to RCEME)
5. Engineering Technician
6. Work Study Technician
7. Workshop Control Procedures
8. Senior NCO (Management Portion)

In addition to the foregoing, short (1 to 3 day) courses in RCEME workshop procedures are given to Master Technician courses, certain other technicians and recruits. The Engineering Technician course was a development of the policy change which divorced the rank and trade grouping combination required for artificers. This new 5-week management course is for master technicians who are substantive sergeants and recommended for promotion. The first such course was being conducted at the time of writing.

The first Work Study Technician course will not be given until certain policies on the employment of such technicians have been settled, probably not before the 64-65 training year.

In the meantime, the new company has become part of the scene at the RCEME School. If you are selected for a management course in the future, we are sure that you will find it both interesting and profitable.

DEME THE WAR OFFICE VISITS CANADA

Maj Gen LH Atkinson, OBE, DEME The War Office, London, made a short visit to Ottawa, Kingston and Montreal on 21-24 March. From AHQ Ottawa, he drove to the RCEME School accompanied by Col Mendelsohn.

He was shown around the School by Col Ward and Maj DJ Tremeer, the REME Exchange Officer. At the School Maj KT Kennah, took command, literally, and flew them on a short sight-seeing flight and then to Montreal, where they viewed the CL-89 Drone System, a joint British/Canadian development program at Canadair Ltd. They were later entertained at a cocktail party at 202 Base Workshop, and General Atkinson returned to the UK on 24 Mar.

IN RETROSPECT

The Award of the Military Medal to SM 62367 Sergeant Charles Fielding Royal Canadian Electrical and Mechanical Engineers attached to 21st Canadian Armoured Regiment (Governor General's Foot Guards)

By Lt Col RH Hodgson CD

ETQMS (WO2) Charles Fielding, MM, CD

ETQMS Fielding is the warrant officer with Production Engineering Group, 2 Production Depot, 204 Base Workshop, RCEME, at Hagersville.

During The Second World War, armoured regiments had RCEME tradesmen attached to them in two categories; the first group were those men who covered off positions on the regiment's establishment and the second group were the members of the light aid detachment (LAD) who were attached as a separate unit and had its own establishment, vehicles and equipment.

In the first category were the regimental armourers and the regimental recovery crews.

Sergeant Charles Fielding, commanded the ARV crews of the Foot Guards from before they arrived in Normandy and during the North West European Campaign.

During the second phase of Operation Totalize, the 4th Canadian Armoured Brigade's objective was a feature known as Point 195, three and a half kilometers to the north from Falaise and six and a half kilometers to the south west from the strongly defended woods (near Quesnay), where the British Columbia Regiment lost forty-four tanks in one action on the 9th of August.

On this same day the Foot Guards were poised at Gaumesnil, twenty-one kilometers north of Falaise on the Caen-Falaise highway.

The Regiment's job was to consolidate on the objective. All opposition was to be by-passed. The attack went in at 1430 hours. By 1000 hours the following day, two squadrons were on the objective; however attempts to reach them with a resupply of ammunition, fuel and food failed because of accurate enemy fire.

Sergeant Fielding volunteered to carry the supplies forward in his ARVs, and by skillful use of ground he led his three vehicles safely through the heavy enemy fire to the squadrons. It took two more trips before he completed his mission. Because of this, the Regiment was able to hold its objective and to establish a deep salient in the enemy's anti-tank defences.

The Brigade moved to Belgium on the 8th of September and advanced into the Moerbrugge

Bridgehead. The Regiment received orders on the 12th to cut the Bruges-Ecloo highway. Beyond the highway the tanks advanced to the Leopold Canal. ETQMS (WO2) Fielding's Citation records:

"Nearing the Canal, two tanks were knocked out by anti-tank guns and a third hit on the sprocket, breaking the track and causing it to run off the road into a deep ditch. So acute was the angle that the tank's guns were useless for protection. Attempting to evacuate, the first crew member was wounded and the crew elected to remain in the tank."

The crew commander requested aid by means of his wireless set and Fielding was sent forward with his ARVs and crew.

His Citation continued:

"After making a quick reconnaisance through his binoculars, he notified the crew commander by wireless of his plan. Under increased mortaring, automatic and small arms fire, he ordered his vehicles forward, dismounted and made the necessary hook-up to tow the disabled tank. Climbing back into his recovery vehicle, he directed the towing of the tank to a sheltered position where the crew could safely be evacuated and the wounded man given first aid".

"I feel that the award should have been given to the complete crew and not just to myself" wrote ETQMS Fielding, when asked to comment on these events." Any crew or individual was always ready to replace anyone or take over another vehicle."

His Citation concludes with these words:

"Through the entire campaign in North West Europe, this NCO has played a part in every action the Regiment has fought. His exceptional nerve, cool thinking, uncanny judgement and absolute disregard for his personal safety while under the most severe enemy fire has, time after time, resulted in the saving of valuable lives and equipment, and has been an inspiration to all who worked with him. His devotion to duty and untiring efforts have contributed greatly to the fighting efficiency of the Regiment primarily, and of the Division as a whole".

S sgt Morton receiving his diploma from Capt BE Callis, Chief of Maintenance Branch at the school. - US Army Photo

S SGT MORTON LEADS CLASS at USAO CENTER AND SCHOOL

S sgt Roderick Morton, 202 Base Workshop, won honors for himself and his corps recently when he was named an honor student at the US Army Ordnance Center and School, Aberdeen Proving Ground, Maryland.

S sgt Morton, Master Technician, "led twelve other US and foreign students graduated from the Ordnance Calibration Technician/Specialist Course following 19 weeks of intensive training in this precision-geared specialty. Essentially, calibration is the comparison of the accuracy of two pieces of equipment, with one piece being of known accuracy and used as a standard in checking the accuracy of the other. Many common items such as torque wrenches have long been calibrated, but with the critical accuracy requirements built into today's missiles, rockets, and other weapons the function is receiving increased emphasis in the military forces of many countries," to quote the news release from Maryland.

RCEME CLOSE SECOND IN APPRENTICE TOURNAMENT

The Tenth Annual Apprentice Tournament was held at Camp Borden March 16-20. This tournament is a training and athletic competition between the four Eastern Canada Apprentice Schools, RC Sigs, RCASC, RCOC and RCEME. During the week-long tournament, the four schools participate in round robin competition in basketball, volleyball and hockey, as well as gymnastic, rifle, tabloid and drill meets.

One team dominated each event except for drill. In volleyball, the Service Corps team defeated each school by lopsided scores. In basketball, RCEME overwhelmed the other teams. In hockey, Service Corps again proved far superior to the other teams, at least doubling the score in each case. In gymnastics the Signals apprentices finished 62 points ahead of RCEME. In shooting RCEME placed first by a comfortable margin. The final event, tabloid, was again dominated by Service Corps as they finished 35 points ahead of RCS of S. Included in this score was a perfect record of sixteen double standards in the chinning event.

The drill competition was extremely close and proved to be the highlight of the week. Service Corps finished only one-half point (the minimum scoring division) above RCEME. Although the RCEME performance was better from a spectator standpoint, they made a few technical errors and this proved to be the margin of victory. Cfn (App) Hepner, the RCEME platoon leader was given special mention by the judges for his outstanding performance.

The Grand Aggregate Trophy is awarded to the school with the highest overall standing during the week. This was a very close race until the final event. After the last event on Thursday, two events remained to be decided: the drill and the tabloid. At this point RCASC and RCEME were tied at 14 points each. The drill competition Friday morning moved RCASC ahead by one point. But as soon as the tabloid began, it was obvious that no team was going to come close to the RCASC.

The tournament this year was an outstanding success, particularly from a sportsmanship viewpoint. This was partially attributable to a new trophy presented by Captain E Thoms, Command Fitness and Recreational Officer, for sportsmanship. In another close contest RCASC won this trophy.

FINAL RESULTS

BASKETBALL	Won	Lost
RCEME	3	0
RCOC	2	1
RC Sigs	1	2
RCASC	0	3

VOLLEYBALL	Won	Lost
RCASC	3	0
RCEME	1	2
RC Sigs	1	2
RCOC	1	2

HOCKEY	Won	Lost
RCASC	3	0
RCOC	2	1
RC Sigs	1	2
RCEME	0	3

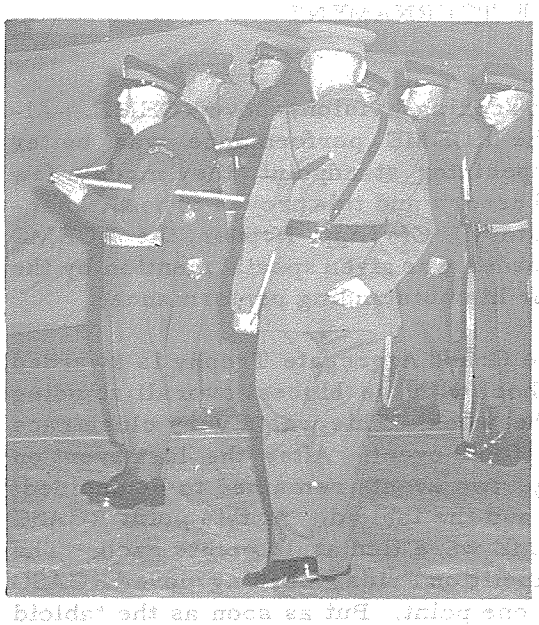
RIFLE	Points
RCEME	963
RCASC	956
RCOC	945
RC Sigs	942

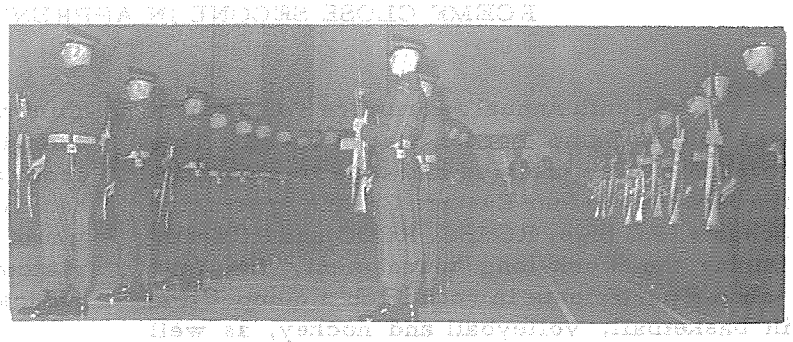
GYMNASTICS	Points
RC Sigs	853.40
RCEME	791.55
RCASC	789.45
RCOC	742.50

TABLOID	
RCASC	1st
RC Sigs	2nd
RCOC	3rd
RCEME	4th

DRILL	
RCASC	1st
RCEME	2nd
RC Sigs	3rd
RCOC	4th

GRAND AGGREGATE TROPHY	Points
RCASC	22
RCEME	18
RC Sigs	16
RCOC	14

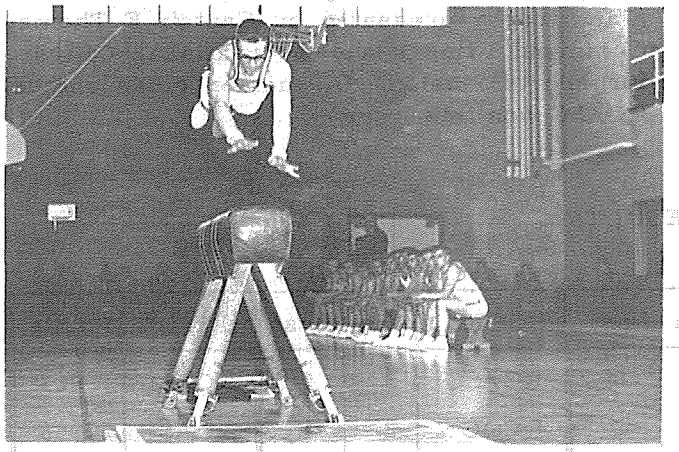


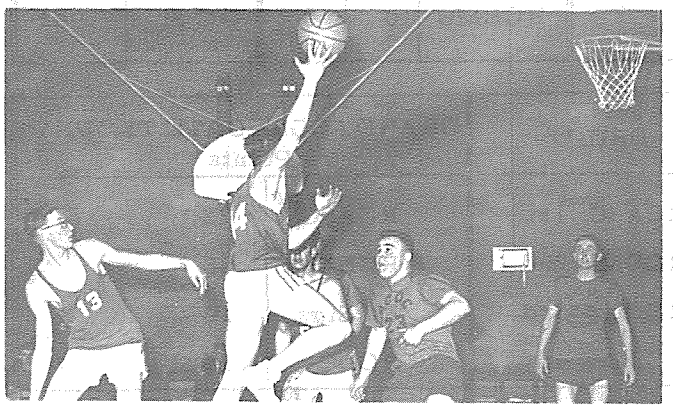


Cfn (App) Gord Hepner, pl comd

Top right - "Present Arms"

Lower right - Maj Gen G Kitching, CBE, DSO, CD, receives salute as RCEME marches off

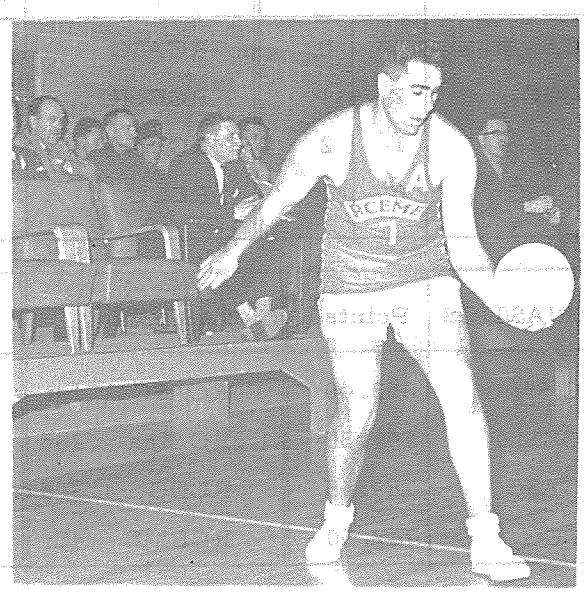




Left - Cfn (App) Bill Richards of the gymnastic team

Lower left - Cfn (App) Martin (14) highest individual point scorer of the tournament

Below - Cfn (App) Tony Marcoff. Maj JS Kitto OC Apprentice Company, center



TRAINING NOTES

By Maj RW Libbey, CD

NEW TRADE TESTS

DEME and RCEME School have been working for some time on a new type of trade test. We are pleased to report that new tests for Vehicle Mechanic Wheeled Group 2 and Vehicle Mechanic Tracked Group 2 are now being distributed. The old type tests are automatically cancelled on receipt of the new ones.

A trade test for Electrical Technician Group 2 is nearly ready for printing and will be distributed soon. Tests for all other trades will be prepared in the new form.

These trade tests contain several banks or groups of questions which will permit the trade test board to make up four completely different tests at any one time. Any number of different tests can be made by selecting the required number of questions at random from each group.

Since these new tests are based on the complete group 2 trade specification, all group 1 tradesmen would be well advised to ensure that they study and practise all serials of the specification before attempting the trade test.

COURSES – M113A1 APC

Plans have been made to start maintenance courses on the M113A1 APC at RCEME School and to set up a separate training facility for 4 CIBG. These plans include special welding courses. Details will be distributed through normal channels.

Some Vehicle Mechanics Wheeled Group 3 and Master Vehicle Technicians Group 4 are being selected to attend US Army M113A1 courses at the New Vehicle School at Detroit Arsenal. These courses cover the new Allison TX100 automatic transmission and the 6V53 diesel engine in detail. One of the prerequisites for US Army personnel attending this course is one year's experience on the M113 (gasoline engine version). None of our Vehicle Mechanics have had this experience, however, we consider that they will be able to absorb the instruction with little difficulty.

Twenty Radio Technicians and Master Radio Technicians have been selected to attend short courses on the AN/VRC 12 and AN/VRC 25 families of radios used in the M113A1.

TRADE SPECIFICATIONS

New specifications for Vehicle Mechanic Wheeled Groups 1, 2 and 3, Vehicle Mechanic Tracked Groups 1, 2 and 3, and Master Vehicle Technician Group 4 have been issued as appendices to CAMTS. Unit trades training programs should be based on these specifications.

In May 63, a trades symposium was held to discuss the future of our trades. Projects were set up to implement the recommendations as follows:

Aircraft Technician

a. This is a new trade which combines the Airplane Technician and Helicopter Technician trades. We hope to have this new specification approved and published by Jul 64.

Instrument-Electrical Technician

b. This new aircraft trade is designed to meet the needs of both FW and RW aircraft. The specification is now being processed at AHQ and approval is expected by Jul 64.

Metals Technician

c. This is a new trade which will combine the Welder and Body Repairman trades and will include airframe repair. The specification is now in draft form and approval is expected by Jul 64.

Look for a further progress report from PTO in the next issue.

RCEME IN THE AIR

WORKING TOGETHER

Working together means giving someone else a hand when he asks for it or giving him a lift (whether he asks for it or not) when you can see that he needs one. But there is much more to working together than these things that you would do anyway. Its the other things, things you might not think of.

There's maintenance, for instance, when you draw some special equipment from the tool crib or borrow a tool from a neighbour, you of course return it, especially if you have signed for it. But if something is wrong with it, do you let him know when you return it? The head of the hammer comes loose as you use it. When you return the hammer to the man in the tool crib do you tell him that the hammer head is loose?

Then there's housekeeping. When you

DID YOU KNOW—

MODERN ELECTRONIC EQUIPMENTS ARE SO COMPLEX THAT RULE-OF-THUMB MAINTENANCE IS CONSIDERED A DANGEROUS PRACTICE. EO's ARE RECOMMENDED FOR EVEN THE MOST MINOR REPAIRS.

finish a cigarette you flip the butt into an ash tray. In the washroom, without a second thought, you put towels in the wastebasket.

But how about your work area? Do you keep it so clean that someone else can step in and pick up where you left off without having to spend hours finding out where things are?

Look at it this way: if you are in a jam and need a quick assist will the fellow you ask be able to hand you the hammer in a hurry or will he have to spend five minutes looking for it?

You know how this sort of thing goes; you ask for help; the fellow you ask can't find what you want; you get mad; he gets mad and then you have to start all over.

There are also other points to this housekeeping business. You make a mess; you clean it up. But suppose someone goes by and leaves a smear of oil or grease next to the place where you are working. He doesn't notice it, and neither do you until he is out of earshot. Who is to clean it up? He may not be back and you can't go to him; so you stoop over and take thirty seconds to wipe it up.

There are a lot of other ways we can work together, anything from a friendly, "Hey, your shoe is untied," to an extra pair of hands on a heavy load but most of the help you give to others will be indirect and won't even be noticed. For instance, a "wet paint" sign is not important as long as you can see it but if its not there the paint is still wet...

You know your job better than the other fellow and he will assume that you have done it well and safely. Make sure you have, and keep him out of trouble.

If you see something wrong, fix it if you can. But if you can't, report it and keep after people until it is fixed.

Don't be afraid to give help when you see it's needed. And above all, if you have any ideas that can be of help to others, don't keep them to yourself.

In the plant or shop where everyone does just a little more than he has to in order to help and to safeguard the other fellow, a lot of possible injuries are never going to happen.

- AMC (RCAF) Monthly Circular

FEAR
CAN SAVE YOUR LIFE

It is extremely easy to develop a very unhealthy attitude toward propellers. Ask yourself these questions. How many times have you looked at a propeller and NOT thought about what would happen if it suddenly started to turn? How many times have you NOT made a special effort to walk around the prop arc while working around an aircraft? How many times have you walked between the engine and the fuselage of an aircraft and NOT thought about how effectively the propeller could chop you up into tiny pieces if it were turning? And how many times have you pulled a prop through by hand and NOT given a thought to the fact that it could possibly start turning on its own?

Every time you perform one of these acts, harmless as they may prove to be at the time, you are subconsciously giving yourself reason to NOT fear and respect the world's best sausage making machine. You are developing the subconscious habit of NOT fearing and respecting the propeller. This habit can KILL you!! During a moment of tension, at a moment when you are busy, when you are trying to hurry a little to secure an aircraft, at a time when you least expect it, the fact that you DO NOT fear, the fact that you HAVE NOT developed a habit of caution and respect for the propeller can cause YOU to put your head down and walk a straight path directly into a whirling death trap.

Thanks to S sgt JE Knight for submitting this very timely advice; it is from the U.S. Army Digest.

We would suggest that this cloak of fear be worn whenever you work with revolving machines be they automobile engine fans or circular saws.

-Editor

RCEME AT HAGERSVILLE CAMP

By AK Paterson

The RCAF station, known as Hagersville Camp was constructed during 1940-41 to expedite the training of pilots under the Commonwealth Air Training Plan, and served this purpose till the termination of World War II.

Towards the end of 1945 the Department of National Defence was faced with an increasing problem of collecting vast numbers of surplus vehicles, equipment and materials from units across Canada, and stores being returned from overseas. In 1946 the decision to utilize the facilities of the RCAF station as a collecting point was made and the concentration of these stores at the newly designated Hagersville Camp began.

The process of declaring certain types of excess vehicles to the Crown Assets Corporation became the first activity of this collecting point. Secondly it was necessary to inspect and determine the feasibility of salvage and repair of the remaining items. Therefore a detachment of 17 Coy RCEME, namely 228 Workshop, was established at Hagersville Camp. "Operation Grindstone", the furbishing of CMP wheeled vehicles, universal carriers and other miscellaneous equipment was initiated.

In the initial phase this workshop unit was comparatively small. However, when the Canadian government accepted the commitment to assist NATO countries with vehicles and equipment, the demand for increased production to meet the volume of NATO requirement made its growth inevitable.

The year 1950 brought "Exercise Sweet Briar". This was the first large scale, joint USA and Canadian Army manoeuvers in the far north. The existing resources of the RCEME workshop in Hagersville Camp were taxed to the utmost to furnish sufficient vehicles to satisfy the demands of the Canadian Army for this exercise. This large scale operation was followed closely by Korea, and in 1951 the organization of the Canadian Army Brigade in Europe. This brigade was fully equipped with rebuilt CMP vehicles from Hagersville Camp.

At this stage, planning was in progress to equip the Canadian Army with a new SMP vehicle. Therefore the necessity for extended vehicle park facilities was obvious. Sufficient space to accommodate these additional vehicles presented no great problem. However the existing equipment and resources of the workshop were to a large extent improvisations or expedients. Many Corps members will recollect with mixed emotions, amusement and dismay, the many complications encountered throughout this period of camp history.

In 1952 the new SMP vehicles began to accumulate, as received, from the production lines of General Motors, Ford, Willys, International and Chrysler. This was encouraging until it was determined that variation in the design and material specifications were to cause a two-year delay in issuing the new vehicles.

By 1954 there was a stock of some 40,000 vehicles in the park area thereby presenting an entirely new challenge to the RCEME Corps. How long will they be there? What is required in the way of preservation? and so on. Although assistance was contributed by ADE, this problem was entirely new to the RCEME Corps and a great deal of credit must be given to personnel of the Corps who gave so much in the form of concentrated study and interest to determine what they considered would be necessary.

One outstanding factor that exists in the Hagersville Camp area is the extreme humidity during the summer months. This humidity plus the high daytime temperature and relatively cool nights, contribute greatly to abnormal deterioration resulting from the excessive condensation.

The requirements for adequate preservation, materials, frequency, etc, - all of these unknown in 1954 - have in the ensuing years been identified. Tests and trials of many methods and materials, have developed processes proven to give a high standard of protection.

It reflects much credit to RCEME that after a period of from six to twelve years since manufacture, vehicles with no mileage are still a reasonably sound and serviceable product to issue.

Throughout the years Hagersville Camp has supplied the vehicles whenever required to equip the Canadian Army wherever it may go: be it Europe, Egypt, Congo or Cyprus.

In Dec 1961 a decision was reached to decentralize vehicles from Hagersville Camp in order to form pools of transport that would meet a national survival requirement. By the time this program was completed along with normal issues, the stock at 1 VSD RCOC had been reduced to approximately 3600 vehicles of all types.

The process of preservation had been changed in 1960 from the original procedure of phasing each vehicle through the workshop every three years for represervation, to a routine annual exercising of the vehicles on blocks in situ. This change was initiated in Hagersville Camp RCEME and approved on a trial basis.

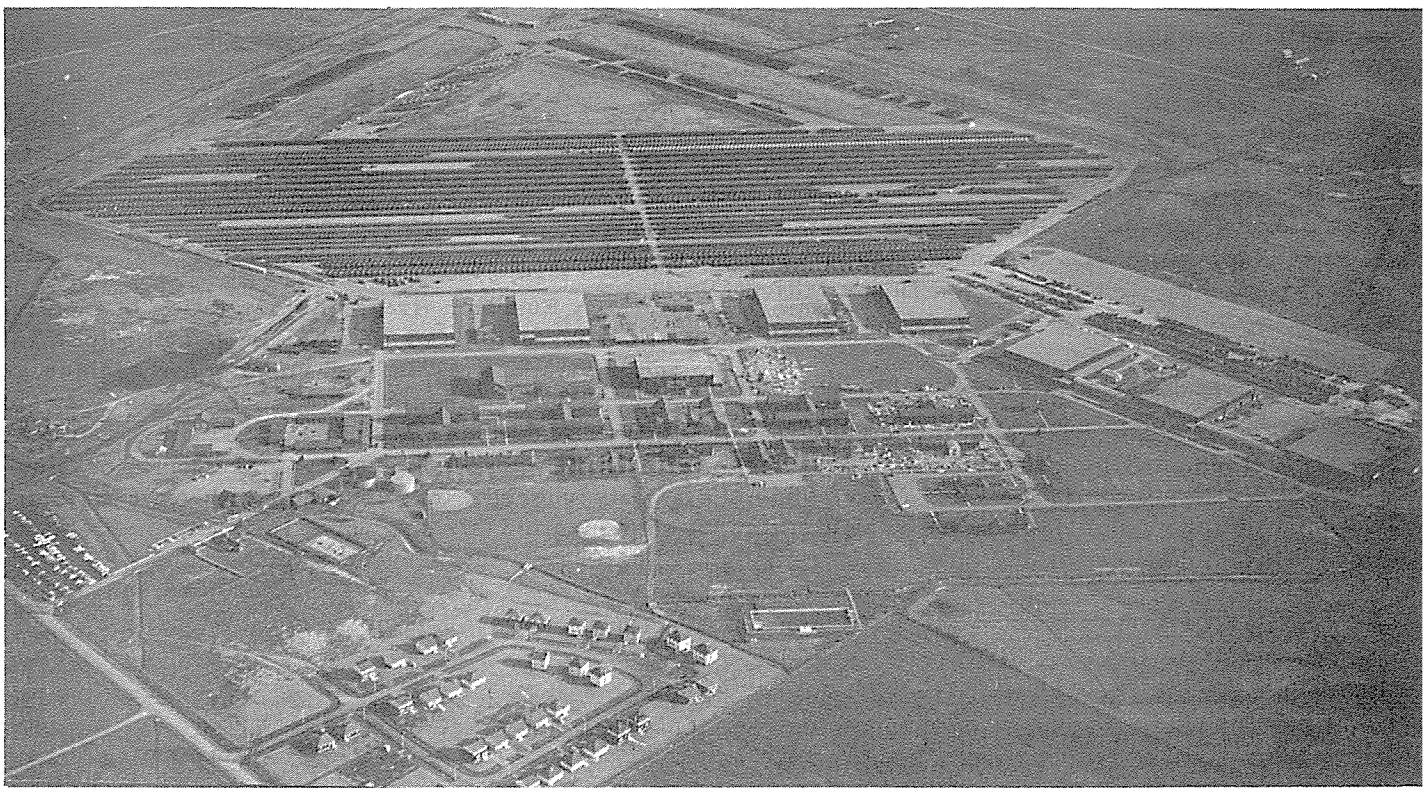
By Dec 1962 there was no doubt that the exercising routine and represervation was a very efficient practice. It was also obvious that an adjustment to the labour force was essential. Consequently the adjustment resulted in a reduction of 109 personnel of all trades in order to balance the required labour force with the substantially reduced workload.

Early in 1963 the QMG directed that a detailed study be carried out to determine the feasibility of further decentralization of the remaining vehicles to command pools and reduce the stock to a point whereby it could be accommodated at London. This was done in conjunction with an assessment of the camp overhead, maintenance, etc. Based on the facts determined in this study, it was recommended to the Minister of National Defence that the remaining vehicles be moved to other units and that Hagersville Camp be closed out. The effective date of closing the Camp has been established as 31 Aug 64, at which time the role of No 2 Production Department terminates, and this subunit ceases to exist.

The RCEME workshop located at Hagersville Camp has throughout the years been a subunit of the base workshop in London and has been identified by several nomenclatures; the present being No 2 Production Department, 204 Base Workshop RCEME.

The eighteen years during which this camp has operated have been a challenging and interesting experience to the RCEME Corps. It is known that the task of maintaining such a volume of new vehicles in a state of preservation has never been accomplished by any other country.

To all that have served at the RCEME workshop it can be attested that this was a job well done. Each individual contribution of interest, effort and initiative has determined the success attained.



Suggestions Received

The following suggestions have been submitted by military or civilian personnel in the Corps. Some will be adopted and many will be 'shot down' for various reasons. However, they are the best evidence that RCEME people are constantly using their heads.

These files were received in DEME during Feb and Mar but the publication of the particulars here does not in any way imply their acceptability.

S sgt EC Ryder	Addition of a semi-conductor diode as a protective device to the Radio Set C42
Sgt LA Maude	Modification to crane hydraulic 3 ton Hiab Model 172RF
S sgt RC Brimmage	Replacement blades for Screwdriver Set 5120-00-288-8739
Mr G Johnson	Modification to the Centurion tank hull to facilitate the removal of the control rods
Mr John M Plant	Removal of con rod bushing for use on Dodge 3/4 ton and International engines
Mr Leo Filiault	Installation of dovetail rail stops to Trumph machine
Mr JA Woodfield	Restoration to original size, worn rocker arm pin holes in the fuel/vacuum pumps used on 3/4 ton Dodge M37 SMP truck
Mr George Marshall	Modification to Centurion header tank
Mr W Norman Ullock	Installation of a spacer between crown gear and fly wheel of Centurion tank

SUGGESTION AWARD

Cpl JD Dunsmore, Vernon Detachment, 11 Coy RCEME, receiving a cheque and Suggestion Award certificate from Brig ED Danby, DSO, OBE, CD, Commander BC Area.

Cpl Dunsmore submitted a proposal for simplified invoicing procedures in local purchasing.

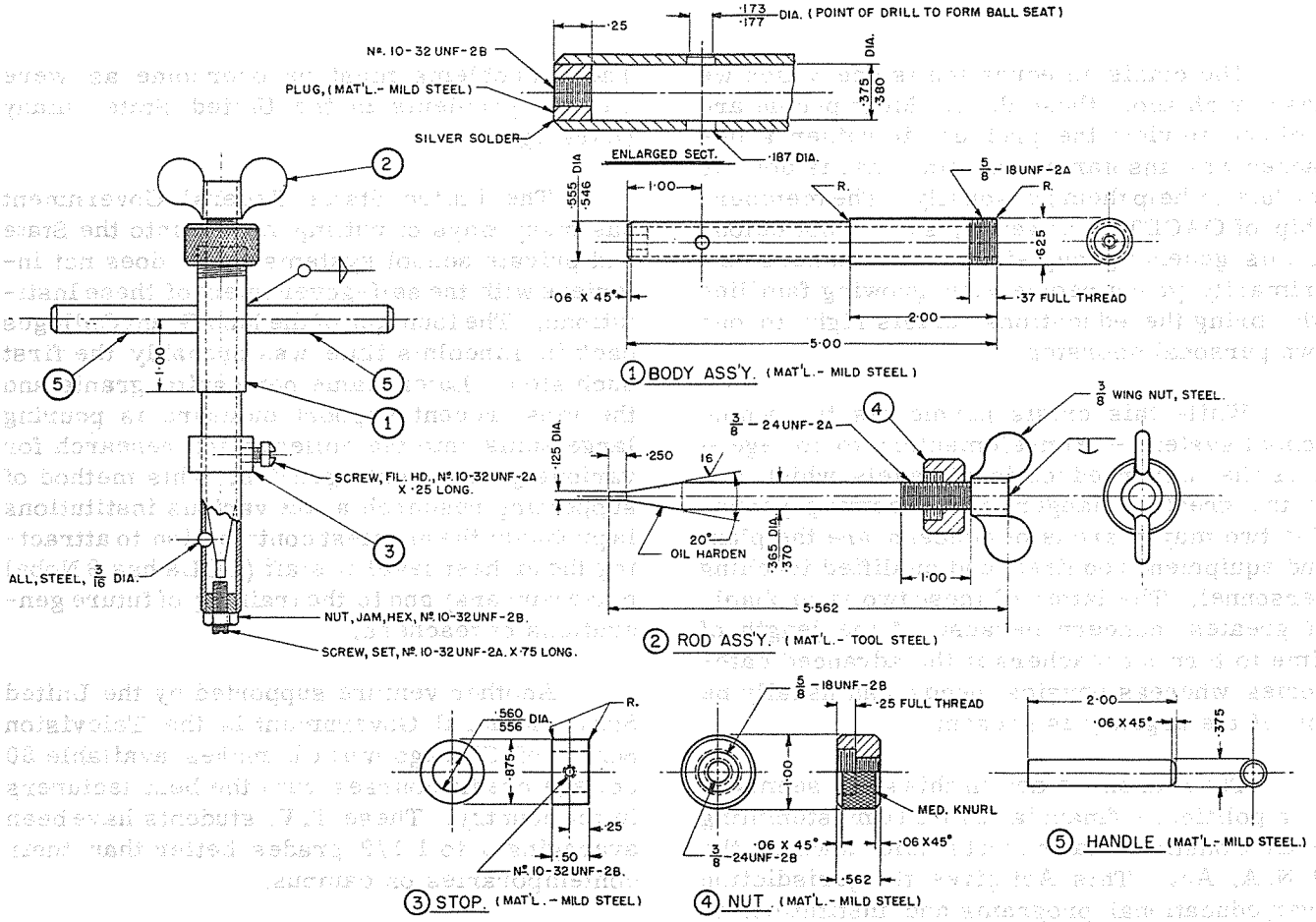
DESIGN REQUIREMENT

There is a need in the army for a firing tube and bullet trap for function firing of small arms in static workshops. This tube is to permit testing of the functions of the weapon and has nothing to do with accuracy.

Function firing on completion of modification, repair or rebuild is just as important for weapons as is test running for engines or function testing for electronics. Because of the difficulty of obtaining range time or because of distance to ranges this operation is continually ignored. It is considered that the majority of function failures which the user complains of can be directly traced to this neglect.

(continued next page)

A suggestion was recently received from Mr WT Pidduck of 204 Base Workshop for a tool to flange 5/8 inch copper tubing. It is considered to be a useful tool, particularly for repair of heaters when the inlet and outlet tubes require replacement. It may be fabricated locally as per DEME Dwg 89887 below or to meet a specific need.



Design Requirement

Such a tube must:

a. Permit safe firing of all small arms including automatic weapons up to and including 30 inch.

b. Be fitted with a bullet trap capable of catching the bullets of such firing to an estimated 50,000 rounds per year without frequent replacement of components.

c. Reduce the noise of firing to a level acceptable to a workman in the immediate vicinity without interference with his work efficiency.

d. Accept hand-held weapons as safely as rest-mounted weapons.

The bullet trap portion of such a device could be much like the 'Detroit' target trap available commercially, but of course must be fitted with a safety tube containing a combination of sound-directing baffles at the point of entry and sound-deadening expansion chambers along its length.

Before design of such a device could be initiated it would be necessary to have an indication of the space available (to govern length) and the number of locations where inaccessability of ranges would make the device valuable as a time saver.

Readers are invited to pass their feelings along to the Editor. (We don't expect any -Ed) Of course if the feeling is strong enough there may be a case for immediate action in accordance with CAO 97-1 or a good existing design might warrant suggestion award action.

CRISIS IN EDUCATION

The crisis in education is one which we hear much about these days. Most people are inclined to view the problem in rather a detached way insofar as anything that is done is too late to help them personally. The membership of OACETT, however, should not belong to this general group since our members are primarily young people with growing families who bring the educational crisis right to our own personal doorstep.

While this crisis permeates the whole school system – from elementary to college – it is the higher educational levels which are in the greatest danger in the coming years. The two major areas of concern are the plant and equipment required and qualified teaching personnel. The latter of these two is probably of greatest concern because of the length of time to turn out teachers in the advanced categories whereas physical needs can usually be met if the urgency is present.

The reason we are in this state seems to be a political - financial problem stemming from Constitutional rights laid down in the B.N.A. Act. This Act gives the jurisdiction over educational programs and institutions to the provinces and contains very clear provisions to prevent Federal Government interference. However, many of the provinces realized some years ago that the budget necessary to carry out the educational policies, in keeping with the times, are out of the reach of the Provincial Treasury and were forced to work out arrangements for financial aid from the Federal Government within the framework and legality of the B.N.A. Act. That these arrangements are not extended further appears to be due to some of the provinces reluctance to give up any of their autonomy which some feel is inevitable with the acceptance of financial help. These problems must be overcome as were similar problems in the United States many years ago.

The United States Federal Government has many ways of putting money into the State and private school systems which does not interfere with the self-government of these Institutions. The founding of the land Grant Colleges back in Lincoln's time was probably the first such step. Later came per capita grants and the most recent support measure is pouring large sums into the colleges for research for various government agencies. This method of supporting research at the various institutions is probably the greatest contribution to attracting the highest level of staff (UCLA has 9 Nobel prize winners) and to the training of future generations of teachers.

Another venture supported by the United States Federal Government is the Television School of Chicago which makes available 60 college credit courses with the best lecturers in the country. These T.V. students have been averaging 1 to 1 1/2 grades better than their contemporaries on campus.

That there is a crisis in education at all levels is obvious. What can be done about it seems to be clouded by political ramifications that our legislators would appear to prefer to leave alone.

Let us hope that we as an Association through the efforts of Howard Lansing and his Committee on Education can, in some way, contribute to a solution of the problem so that your kids and mine will have the opportunity for all the education they are capable of absorbing.

-The Ontario Technologist

DID YOU KNOW?

That the new RCEME Officers' Tie is now available through MLS.

Drawing and Blueprint Reading For Tradesmen

Sgt AJ Beveridge

Ancient history indicates that the first writing was a drawing - a graphic message meant for the eyes of other men. It may have been a picture portraying some important event graphically, or it may have been a symbol, or a series of symbols, conveying a message or warning from one man to another.

Later on through the years men became more and more creative and scientific. Due to the complexity of their ideas they drew their own sketches to work from. As mass production came into its own, however, they became more and more specialized in one particular field, and there arose the problem of the designer having to convey ideas accurately and conveniently to the workmen.

The evolution of the more common methods of conveying ideas, such as gestures, speaking, writing, and pictorial and mechanical drawings, resulted in mechanical drawing becoming essential to industry.

Therefore, graphic language is a medium used in the industrial world by engineers and designers to express and record the ideas and information necessary for the building of machines and structures.

Distinguished from drawing as a fine art, practiced by artists in pictorial representation, engineering drawing as a fine art is a means of aesthetic expression. The artist strives to produce, either from a model or landscape before him or through his creative imagination, a picture which will impart to the observer the same mental impression as that produced in the artist's mind. By employing colour, gradation of tone in monotone light and shade, or line combinations in black and white, he is able to suggest his impression and to depend upon the observer's imagination to visualize the effect of perspective foreshortening and to supply the lack of complete detail.

A draughtsman has a more exacting task. Limited usually to outline alone (shading is not often used, except for illustrations), he may not depend upon suggested meanings, but must give precise and positive information regarding every detail of the machine or structure he has drawn. Thus, drawing to him is more than pictorial representation; it is a complete graphical language, by whose aid he may describe minutely every operation necessary and may keep a complete record of the work for duplication and repair.

It has been found to be impractical to attempt to use the mechanical drawing produced by the design engineer for normal production in a factory. To attempt to do so meant that there was only one drawing available when several machines were required to work on the object. Also, the cost of replacing the drawing if it were lost or destroyed, was expensive. It was therefore necessary to find a convenient and inexpensive method of duplicating the drawing.

The reproduction of drawings was achieved by making a tracing of them, and from this tracing a blueprint could be made. As times progressed, tracings continued to be used to produce other types of prints, known by various trade names. Direct photographic methods, dispensing with tracings, are now starting to become the common means of reproduction.

In the artist's case, the result can be understood in greater or less degree by anyone. The draughtsman's results does not show the object as it would appear to the eye when finished. Consequently, his drawing can be read and understood only by one trained in the language.

Thus, as the foundation upon which all design and subsequent manufacture are based, a drawing becomes - with the possible exception of mathematics - the most important single branch of study in a technical school. The subject is essential in all types of trade practice. A tradesman who may never have to make drawings must be able to interpret them and to know whether or not the drawing is correct.

Consequently the RCEME tradesmen on course at The RCEME School, like civilian technical students, are required to learn drawing and blueprint reading as part of their trades. training.

It has been found that, due to the length of the individual courses and the knowledge required for each army trade grouping, the RCEME craftsman receives adequate instruction at the group 1, group 3 and group 4 trade levels.

Therefore, the knowledge of drawing and blueprint reading is necessary for the duplication, repair or modification of the technical equipments issued to the Canadian Army.

Blueprint reading, as with everything today, progresses and changes with time. Newer standards come into effect from time to time. These can be learned by reference to the Canadian Standards Association, on Mechanical Engineering Drawing Standards, number B78.1 dated 1954. For example the CSA shows that there are now two different lines being used for centre lines and three different lines being used for cutting plane lines. Such information is like new words in any language, which you must learn or not 'get the message'.

A DRAWING IS WORTH A THOUSAND WORDS

How To Use More Time To Do Less

By Obviously Anonymous

For "Parkinson's"* law-abiding-managers, the following techniques will be useful in expanding work to unmanageable proportions.

1. Do It Yourself. You can't be sure its done right unless you handle every detail personally.

2. Call Lots of Meetings. Verbal orders and memos can't begin to match the comradeship of a good conference.

3. Keep an Open Door. Give freely of your time to anyone who wanders in.

4. Take Things as They Come. This may be a bit confusing and nerve-racking but adds variety to every hour.

5. Do the Simplest Things First. This will give more important things a chance to go away or at least get really complicated.

6. Be Sociable. The more time spent creating the "right atmosphere" for doing business, the less business you'll have to do.

* Parkinson's First Law – Work expands to fill the time available for its completion.

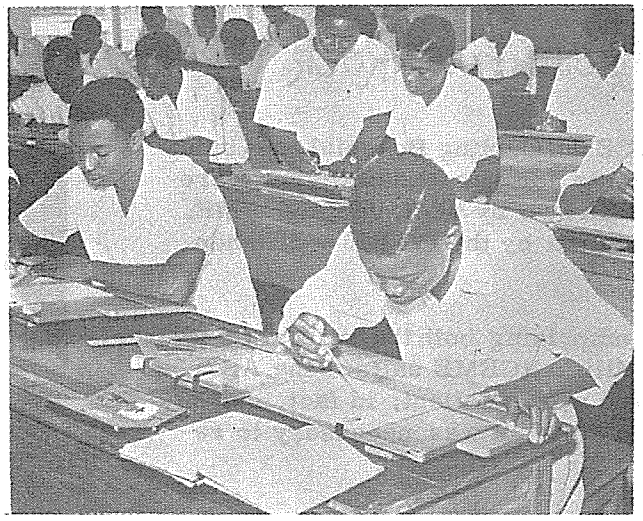
- Thanks to Maj JM Treleaven

A Letter From Ghana

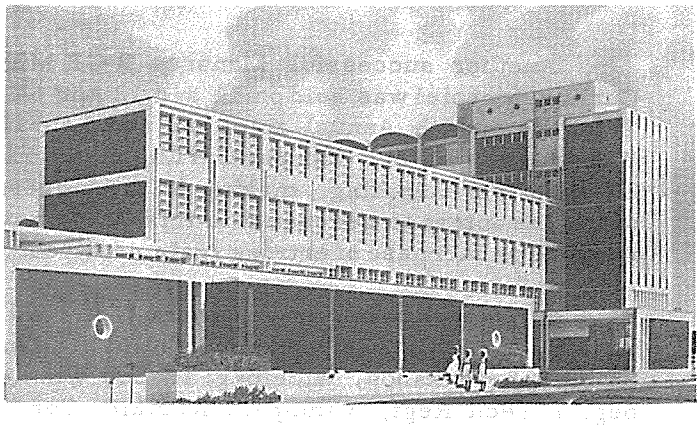
Lt Col EW Coleman to Lt Col RH Hodgson

I guess I must be slipping into local ways; here it is three weeks since we arrived and I wonder what I have done, if anything. It looks as if Mac (Capt JS McIntyre, CD, RCEME, retired) and I will be in Accra until after April 1, as the buildings at Kumasi will take that long to finish. All the information is here, so we can work here. It's OK with me as long as someone else picks up the tab at the hotel, about £12 a day. Our settlers' effects are leaving Canada about now, I hope, but I think the routing is Liverpool, so they probably won't arrive until after April.

Mac should get his car tomorrow (we all get Fiats supplied but buy the gas – 75¢ a gallon.) This will be the first time we have been independent, so hope to get a few motor trips out of the city. The first week and a half Wallis (Col J Wallis, OBE, CD, RCASC, retired) drove us about, and we did the same for Mac, except the car won't hold six all at once, in this weather anyway. The seasons are most peculiar. I expected this would be the coolest and best time but apparently it is the worst. It was 84 when we arrived but for the past two weeks it has been hitting 90; although it is easy to work up a sweat, it is not too uncomfortable. I gather the rainy season which should begin in late April is quite pleasant; there is a heavy rain, sort of morning and evening, and any other time it likes to, but is quite pleasant in between. July and August are quoted as being very comfortable and cool, and the best time of the year; as we are still north of the equator this goes against my calculations.



Accra Technical Institute



Kumasi Central Hospital

Mac and I had a trip to Kumasi on Wednesday. It is reputed to have better weather and be a nice city to live in by all reports. There is a lot of beautiful new construction going on. The university in particular is most impressive. There is still a lot of the old around, but I imagine that in 15 years the whole picture will change if the present pace can be maintained. A lot has obviously been done in the past few years.

The new workshop buildings are very fine and an impressive array of new equipment has been purchased, mainly UK with a fair proportion of German. However, the layout looks as if it was put in where it would fit, and little relation of one machine with another. I can't do much about shifting pits and hoists but I will try to rearrange a lot of the other equipment. There isn't much time left and it has taken this long to get the plans and the equipment list. Also, past experience indicates that any of the information I have could be out of date. When we went to Kumasi I found the building had quite a few major changes that weren't recorded on the drawings I received. The plans were drawn up by a British colonel who left a year or so ago and no one here really knows why things were planned the way they are. The local officers are most pleasant and co-operative and capable. They just lack experience and a solid NCO group to back them up. There looks like plenty to do for the next few years and I am looking forward to a pleasant association.

- Pictures through the courtesy of High Commissioner for Ghana

Missing The Broom

MANITOBA AREA RCEME BONSPIEL

Another successful Manarea RCEME Curling Bonspiel was held on 11 and 12 Apr 64. This was the 9th Annual spiel and was held in Winnipeg at the Fort Osborne Curling Club with 20 rinks participating, making it the biggest yet. The interest generated in this Area may result in an increase of entries again next year.

Rinks took part from 18 Coy Ft Churchill; AMMU, CJATC; 212 workshop Shilo; RCSA, Shilo; 213 workshop, Winnipeg; 10 Coy Winnipeg; 7 Tech Regt, Winnipeg; RCEME Corps Assoc; 3 RCHA; 4 Tpt Coy RCASC.

Saturday night, 11 Apr 64, a buffet supper and refreshments were served and old acquaintances and friendships renewed. At the same time the last draw of the day was held and between bites and sips the "behind-the-glass skips" had a field day trying to second guess the playing teams.

Sunday morning there were three draws and the semi-finals and finals played off with appropriate prizes awarded to the finalists in each event. Members of the winning rinks were:

	"A" Event	"B" Event	"C" Event
- First -	10 Coy RCEME	213 Wksp, Winnipeg	3 RCHA, Winnipeg
	Mr AD Langlois	WO2 A Nicolson	S sgt JA Bowles
	Maj EA Williams	WO1 AT Brown	Cpl JD Madden
	Sgt EB Smith	S sgt TF Hudson	Cfn PJ Laverdure
	S sgt KD Clark	S sgt GH Martin	Cfn LH Canam
- Second -	7 Tech Regt RCEME	213 Wksp, Winnipeg	RCSA, Shilo
	WO1 AM Christie	Cfn WT Smith	S sgt BJ Thompson
	S sgt JW McRitchie	Sgt AJ Frasson	Cfn LG Lee
	WO2 DL Martin	Mr CJ Hunt	Cpl P Alexander
	Sgt P Swaitkewich	Mr CF Fowler	Cfn JA Binet

Lt Col CV Lilley, AA&QMG, Manitoba Area; Lt Col D Alexander, CO 7 Tech Regt, and Capt DM Maher, OC 212 Wksp, presented the prizes.

Lt Col H Goodfellow Throws First Rock

The Third Annual Alberta Area RCEME Curling Bonspiel was held in Calgary, February 14 to 16. The hosts for this annual event were 1 Field Workshop. The first rock was thrown by the Command EME, Lt-Col H Goodfellow, and swept to the button by the CO 215 Workshop, Maj FE Cooper.

Thirty-two rinks participated, comprising both the military and civilian members from all Regular and Militia RCEME units of the Area. The response to this annual RCEME event was excellent; in fact, due to the limiting factors of available ice and time, it was necessary to restrict the number of rinks taking part.

RCEME Salesmanship

By Capt EJ Stow, CD

Various countries have indicated an interest in the Canadian developed Navigational Aid System which is now being installed in a limited number of Canadian Army vehicles, both tracked and wheeled.

The system consists of a Gyrocompass feeding directional information into a computer which also receives distance travelled from the vehicle speedometer. The computer feeds a position heading indicator dial and an indicator displaying an eight-figure map reference. Another form of display is a map board on which position and direction of travel is constantly indicated by an illuminated arrow.

Although parallel developments are in progress elsewhere, the Canadian version has proven itself most successful and has been loaned for trials to the US and UK armies.

It fell to S sgt FG Parsons of 202 Base Workshop to provide the maintenance support for the US user trials at Fort Irwin, California, and later at Fort Richardson, Alaska.

The results of both of the above phases proved that the Navaid system is, without a doubt, the answer to the basic requirement of needing to know where you are in terrain adorned with a minimum of discernable features.

As is the case on all such missions S sgt Parsons was called upon to do much more than provide maintenance support. Besides installing, adjusting and maintaining the equipment, he had to instruct the personnel in the use of it, and brief unit and formation commanders on its capabilities and possible uses.

S sgt Parsons explaining operation of the Navaid system to US Army officer.

On this job of salesmanship S sgt Parsons appears to have acquitted himself in the traditional Corps style. The US authorities specifically requested that he be made available for the Alaska phase of the trial on the basis of his performance in the sunny California desert.

BIOGRAPHICAL SKETCH

General The Honourable Andrew George Latta McNaughton, PC, CH, CB, CMG, DSO, CD, B Sc, M Sc, D Sc, DCL, LLD, PSC, IDC, Soldier and Engineer.

Born: Moosomin, Sask, 25 February, 1887; son of the late Robert Duncan McNaughton, formerly of Saint John, NB, and the late Christina Mary Ann McNaughton (Armour), formerly of Ingersoll, Ontario, only daughter of the late William Armour of Dorchester, Ontario, and the late Ann Prentice, his wife.

Educated: Public School, Moosomin, Sask, (1894-1900); Bishop's College School, Lennoxville, PQ, (1900-1905); McGill University, undergraduate (1905-1910); Postgraduate and Instructional Staff in Electrical Engineering and Mathematics (1910-1914); Royal Staff College, Camberley, England (1921); Imperial Defence College, London, England (1927).

University and College Degrees: B Sc, McGill, 1910; M Sc, McGill, 1912; PSC, Royal Staff College, 1921; IDC, Imperial Defence College, 1928.

Married: Mabel Clara Stuart, daughter of the late Godfrey Wèir, Montreal, PQ, 17 Sep 1914 at Valcartier, PQ.

Children: Christina Pauline Stuart, 10 Aug 1915 (Married G/C TK McDougall, RCAF, 21 Jan 1939); S/L Andrew Robert Leslie, AFC, RCAF, 21 Jul 1916 (Married Virginia Goodfellow, 7 Jun 1941); Col Edward Murray Dalzell Leslie, RCA, 20 Oct 1918; S/L Ian George Armour, RCAF, Nov 6, 1919 (Killed in action over Emden, Germany, Jun 1942); Leslie Anita Stuart, 14 Sep 1924 (Married Howard Calvin Sykes, Jr., 20 Jun 1949).

Military and Civilian Record:

1909-1910	Special course for University Candidates for commission in Regular Army, McGill University.
4 May 1909	Prov. Lieutenant, Canadian Militia.
9 May 1910	Lieutenant, 3rd Battery, CFA.
16 May 1911	Promoted to Captain.
28 May 1913	Promoted to Major to command 3rd Battery CFA.
1914-1918 -	Service in World War I
22 Sep 1914	Major, 4th (7th) Battery, CFA.
24 Apr 1915	Wounded, 2nd Battle of Ypres.
21 Oct 1915	Major, 21st Howitzer Battery, CFA.
11 Mar 1916	Lieutenant-Colonel, 11th Brigade, CFA.

27 Jan 1917	Counter Battery Staff Officer, Canadian Corps Artillery.
1917	Senior Officers School, Salisbury, England.
5 Feb 1918	Wounded, Soissons, France.
Oct 1918	Appointed to command Canadian Corps Heavy Artillery.
10 Nov 1918	Promoted Brigadier-General.
1919	Appointed member of committee for re-organizing Canadian Militia.
1 Jan 1920	Commissioned in Canadian Permanent Force and appointed Director of Military Training and Staff Duties at National Defence Headquarters, Ottawa.
1921	Royal Staff College, Camberley, England.
1922	Resumed appointment of Director of Military Training and Staff Duties.
1 Jan 1923 to 22 Dec 1926	Deputy Chief of the General Staff at National Defence Headquarters, Ottawa.
1926	Joint Inventor of Cathode Ray Direction Finder.
Jan 1927 to Apr 1928	Imperial Defence College, London, England.
1 May 1928	District Officer Commanding, Military District No. 11, Victoria, BC.
1929-1935	
1 Jan 1929	Promoted Major-General and appointed Chief of the General Staff, National Defence Headquarters, Ottawa.
1930	Advisor, Canadian Delegation to Imperial Conference, London, England; Member of Committee on Civil Aviation.
1932	Advisor, Canadian Delegation to Conference for Limitation of Armaments, Geneva, Switzerland; Member of Committee on Trans-Atlantic Air Service, Imperial Economic Conference, Ottawa, Ontario; Chairman, Associate Committee on Survey Research, National Research Council; Chairman, Inter-Departmental Committee for Trans-Canada Airways; Vice-President, Canadian Geographical Society; Responsible under Ministers of Labour and National Defence for organization and administration of works projects for the care of single homeless men on emergency landing fields, forest experimental stations, restoration of historical sites, etc.
5 Oct 1935	President, National Research Council.
1939-1945	
17 Oct 1939	Appointed GOC, First Canadian Division.
10 Jul 1940	Promoted to Lieut-General on appointment as Commander VII Corps.

19 Jul 1941	Appointed to command Canadian Corps on Organization.
6 Apr 1942 to 26 Dec 1943	General Officer Commanding-in-Chief, First Canadian Army Overseas.
27 Sep 1944	Promoted to rank of General.
1 Nov 1944	Retired from Canadian Army.
2 Nov 1944	Appointed to the Privy Council of Canada and appointed Minister of National Defence.
21 Aug 1945	Resigned office of Minister of National Defence.
1 Sep 1945	Appointed Chairman, Canadian Section, Canada-US. Permanent Joint Board on Defence.
2 Apr 1946	Appointed Canadian Representative, United Nations Atomic Energy Commission.
26 Sep 1946 to 16 Mar 1948	President, Atomic Energy Control Board of Canada.
Jan 1948 to Dec 1949	Permanent Delegate of Canada to the United Nations and the representative of Canada on the Security Council.
1 Jan 1950	Appointed Commissioner, Canadian Section, International Joint Commission.
17 Jul 1950	Elected Chairman, Canadian Section, IJC.
	Retired 15 April 1962
30 Jun 1959	Resigned Chairmanship of Canadian Section Canada-US. Permanent Joint Board on Defence.

Decorations: Distinguished Service Order (1917); Companion of the Order of St. Michael and St. George (1919); Companion of the Order of the Bath (1935); Companion of Honour (1946); Grand Officer of the Order of Leopold (Belgium) (1946); Canadian Forces Decoration (1955).

Honours and Honorary Degrees: LLD, McGill, 1920; Member of the Engineering Institute of Canada, 1926; Life Member of the Engineering Institute of Canada, 1949, Honorary Member, 1957; DCL Bishop's 1937; Honorary Member of the Canadian Institute of Forestry, 1938; Honorary Fellow of the Royal College of Physicians and Surgeons, 1939; Awarded Sir John Kennedy medal of the Engineering Institute of Canada, 1940; Awarded Silver Medal of the Royal Society of Arts, London, England, 1941; LLD, Queen's, 1941; Honorary Fellow of the Royal Society of Canada, 1941; Honorary Member of the Institution of Electrical Engineers, London, 1942, LLD Birmingham, 1942; Honorary Member Royal Canadian Institute, Toronto, 1942, Honorary Member of the American Institute of Electrical Engineers, New York, 1942; Honorary Member of the American Society of Mechanical Engineers, New York, 1943; Honorary Member of the Institution of Royal Engineers, Chatham, 1943; LLD, Ottawa University, 1943; Honorary Member McGill Graduates Society, 1943; LLD University of Sask, 1944; Honorary Member The East India Sports Club, London, SW 1, 1946; Honorary Member, Royal Canadian Engineers Survey Association, Ottawa, 1947; Charter Associate, Arctic Institute of North America,

1948; Honorary Colonel 12 Mar 1946 - 18 Mar 1949; Honorary Colonel Commandant 19 Mar 1949 - 19 Sep 1962; Colonel Commandant 20 Sep 62 - 18 Mar 1964; Honorary Life Member Canadian Artillery Association, 1949); Member, Association of Professional Engineers (Electrical) of Ontario (1950); Gold Medal, Association of Professional Engineers of Ontario (1951); Honorary Colonel McGill University, COTC, (1951); Life Member, National Geographic Society (1952); Honorary Doctor of Laws, Michigan State College (1955); Honorary D Sc, University of BC (1960); Commissioned Boundary Dam Power Plant, 14 May 1960; Honorary Member, Association of Professional Engineers of Alberta (1961); Honorary Member, Native Sons of Canada (1960). In March 1962 he received the Founders Award from The Institute of Electrical and Electronics Engineers, "for his inspiring leadership and his personal contributions in the field of electrical engineering and radio communications".

Fraternity: Kappa Alpha.

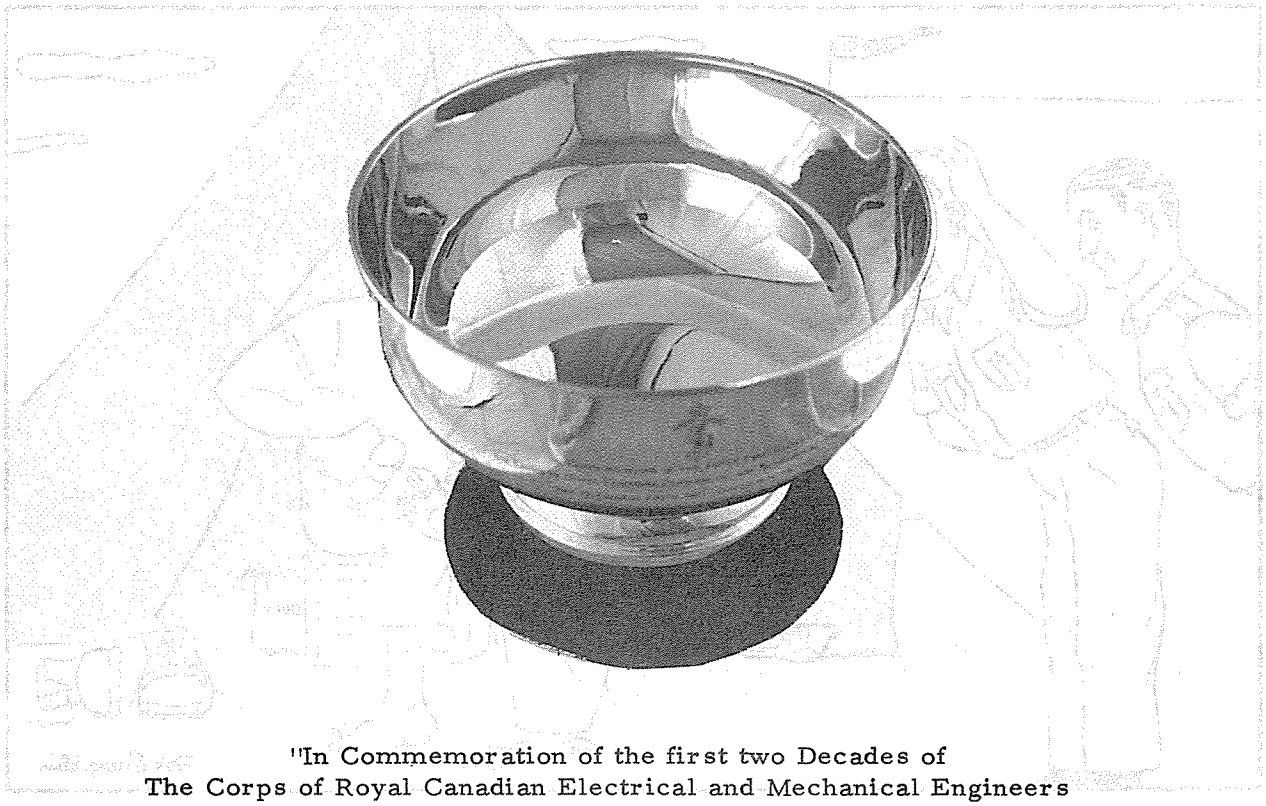
Religion: Anglican.

Recreation: Shooting, fishing.

Clubs: Rideau (Ottawa); University (Montreal); Royal St Lawrence Yacht (Montreal); Seignory (Montebello, PQ).

Home: Fernbank, Rockcliffe Park, Ottawa, Canada. Telephone 749-7002.

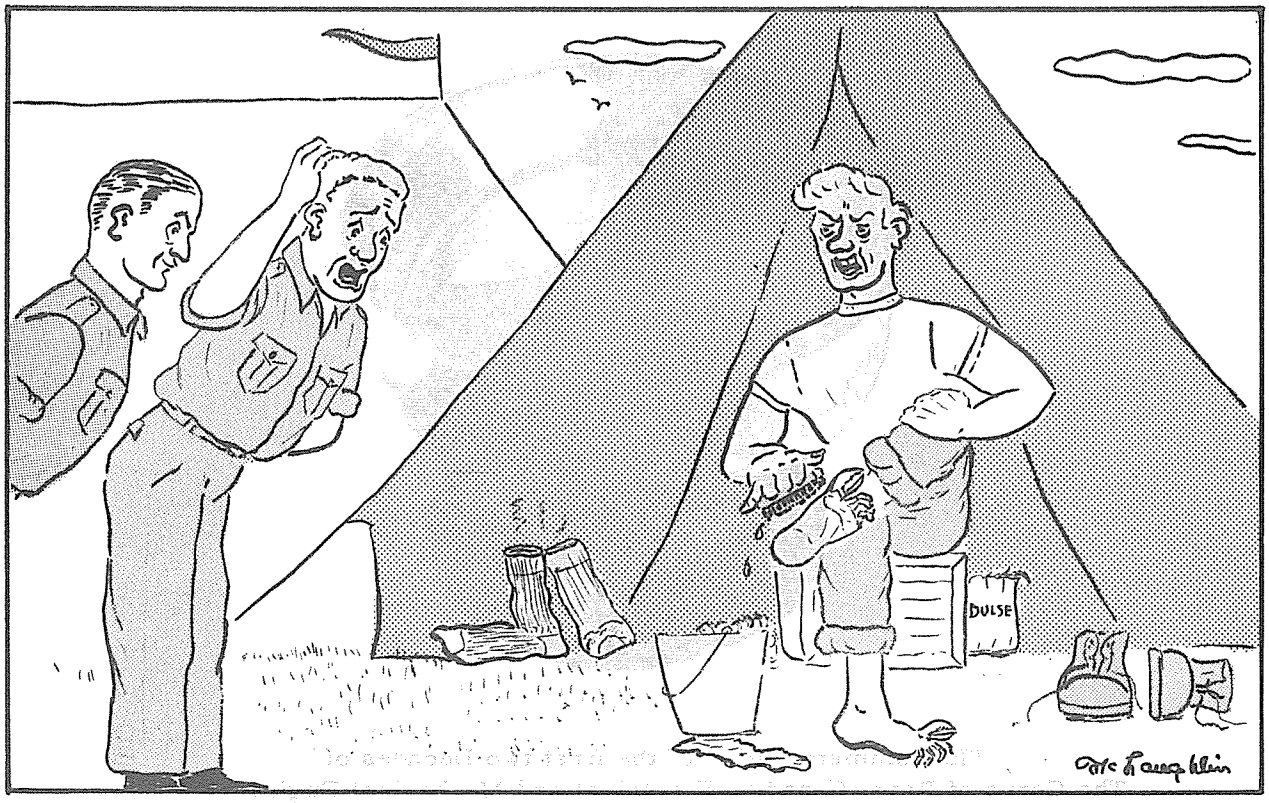
THE ROSE BOWL



"In Commemoration of the first two Decades of
The Corps of Royal Canadian Electrical and Mechanical Engineers
and to Express Faith and Confidence in the
Continued Service of the Corps to Canada."

RCEME PERSONNEL - CYPRUS

Capt	FA	Ouimet	5 Coy RCEME
WO2	L	Boisvert	5 Coy RCEME
S sgt	RD	Dunham	202 Base Wksp
S sgt	JJ	Goodfellow	202 Base Wksp
S sgt	HL	Linge	13 Coy RCEME
Sgt	JL	Comeau	1 R22eR
Sgt	EG	Dargie	LdSH(RC)
Sgt	J	Piccini	1 R22eR
Cpl	LV	Belzile	4 Coy RCEME
Cpl	G	Gagnon	5 Coy RCEME
Cpl	EJ	Hiscock	10 Coy RCEME
Cpl	JGAGP	Lanctot	2 R22eR
Cpl	JM	Levesque	1 R22eR
Cpl	AR	Marquis	1 R22eR
Cpl	GD	Matheson	202 Base Wksp
Cpl	RJ	Racine	1 R22eR
Cpl	JE	Therien	1 R22eR
Cpl	JD	Vaillancourt	1 R22eR
Cfn	R	Beauchamp	2 Fd Wksp
Cfn	Y	Bernier	1 R22eR
Cfn	JM	Blanchard	1 R22eR
Cfn	JRM	Desautels	RCD
Cfn	G	Doray	2 R22eR
Cfn	WJ	Fortin	3 Coy RCEME
Cfn	W	Ginnish	8CH
Cfn	JAR	Laliberte	RCAC School
Cfn	AR	Pomerleau	1 R22eR
Cfn	R	Proulx	1 R22eR
Cfn	JC	Raymond	1 R22eR
Cfn	GJP	St Armour	4 Coy RCEME
Cfn	ME	Smith	2 Fd Wksp
Cfn	RT	Smith	202 Base Wksp
Cfn	GE	Woodworth	7 Coy RCEME



YOU "UPPER CANADIANS" NEVER SEE A MARITIMER WASH HIS FEET BEFORE?

WHO'S WHERE

LOCATION OF RCEME WARRANT OFFICERS

As of 18 Mar 64

Class 1

Baynes	CH	CBUE
Boshier	R	204 Base Wksp
Brennan	RS	RCEME School
Brown	AT	10 Coy
Brunton	AC	8 CH
Buck	WM	14 Coy
Cozens	SD	RCEME School
Dagenais	EJ	9 Tpt RCASC
Dodds	TH	RCEME School
Doherty	E	10 Coy
Drew	CV	AEEE
Drobot	W	5 Coy
Dudley	J	D Org
Elliott	WEC	202 Base Wksp
Fox	HR	AEEE
George	AG	202 Base Wksp
George	LJ	FGH
Gladwin	CH	CADEE
Guilfoyle	ME	RCEME School
Hanash	J	8 Coy
Hayes	JW	DEME
Henry	JE	56 Inf Wksp
Holtzhauer	WN	RCASC School
Houlton	VH	DEME
Hunder	BAJ	RCEME School
Hurd	LR	202 Base Wksp
Jackson	AF	DEME
Jackson	O	RCEME School
Keech	HL	DEME
Knight	RA	16 Coy
Knowles	GA	RCAC School
Landry	JL	4 Coy RCASC
Lee	KA	202 Base Wksp
Leon	BU	12 Coy
Leonard	WV	14 Coy
Lewis	CB	11 Coy
Lewis	SM	13 Coy
Lowry	LH	DEME

Class 1

MacDonald	DJ	DEME
Mallett	JC	AEEE
McInnes	DM	4 Coy
McMurchy	WS	DEME
Meloche	JB	HQ Que Comd
Mercer	JL	RCEME School
Munroe	GW	7 Coy
Neil	T	2 Coy
Norbury	G	13 Coy
Oakes	GAM	DEME
Owen	LR	RCD
Parker	JC	204 Base Wksp
Richardson	W	202 Base Wksp
Rivers	AM	RCEME School
Robertson	WG	3 Coy
Rowe	AW	RCEME School
Rutherford	FA	CJATC
Shaw	JE	DEME
Sherman	CG	DCER
Silzer	J	RCEME School
Sinclair	L	C Ont Area "I" Staff
Snell	JD	AEEE
St Pierre	G	LdSH (RC)
Stewart	RH	RCEME School
Stringer	AJ	1 Fd Wksp
Szumlanski	J	2 Fd Wksp
Thivierge	AJ	AEEE
Thomas	GA	DEME
Walsh	IS	4 Fd Wksp
Warren	DH	202 Base Wksp
Weston	ET	4 Fd Wksp
Wilkinson	EJ	202 Base Wksp
Wilson	RR	CBUE Incr 'A'
Young	RD	10 Pers Depot

Class 2

Adams	RJM	RCEME School

Class 2

Allen	EB	10 Coy
Allen	JJ	202 Base Wksp
Allen	WG	56 Inf Wksp
Almey	B	DEME
Anderson	JS	202 Base Wksp
Anderson	SB	EBS Bn
Armstrong	JH	4 RCHA
Armstrong	RWF	EBS Bn
Ashdown	GG	202 Base Wksp
Axford	DS	DEME
Babb	CH	DEME
Bailey	E	204 Base Wksp
Balmer	AJ	4 Tpt Coy RCASC
Barker	NG	RCSA
Barrett	GJ	202 Base Wksp
Barrey	WGA	202 Base Wksp
Bateman	NFK	1 CIBG
Bellefontaine	AEL	6 Coy
Boisvert	L	5 Coy
Both	TA	13 Coy
Bottle	DA	1 Coy
Bouchard	JM	RCEME School
Bovey	ET	3 CIBG
Broomer	TF	4 Coy
Brown	AW	10 Coy
Burgess	EW	3 CIBG
Burnette	JH	204 Base Wksp
Cameron	FR	2 Fd Wksp
Cameron	WE	10 Coy
Campbell	DN	RCEME School
Carefoot	WN	202 Base Wksp
Carver	AE	RCEME School
Cassidy	GP	RCEME School
Celli	AJ	202 Base Wksp
Christensen	AJ	204 Base Wksp
Clarke	AL	1 Fd Wksp
Clooney	RT	56 Inf Wksp
Clyde	KT	204 Base Wksp
Coles	JC	11 Coy
Colson	AR	3 Coy
Coughlan	GH	2 Fd Wksp
Coughlin	AF	2 Fd Wksp
Crane	CE	RCEME School
Cross	FT	13 Coy
Crosson	JH	2 Tpt Coy RCASC
Cunningham	JM	4 Coy
Dainty	WH	8 Coy
D'Amour	LOJ	2 Coy
Dance	GN	RCEME School
Dand	RJM	Man Area 'I' Staff
Davis	WE	RCEME School
Deans	AG	HQ Wescom

Class 2

Dewar	J	DEME
Dinner	A	2 Fd Wksp
Dorey	EE	RCD
Dormer	NH	202 Base Wksp
Drake	EA	6 Coy
Dyck	D	202 Base Wksp
East	SW	2 Coy
Elliott	BD	202 Base Wksp
Eno	JB	14 Coy
Evans	RL	12 Coy
Fairbairn	TM	10 Coy
Fairfield	LR	10 Coy
Feller	DH	4 Coy
Ferguson	HG	3 Coy
Fielding	C	204 Base Wksp
Foley	HEF	3 RCHA
Fourcaudot	C	5 Coy
Fryer	JWA	7 Coy
Gall	GJ	CADEE
Gavriloff	W	AEEE
Germain	DP	13 Coy
Gibbs	BF	14 Coy
Gill	DE	AEEE
Goss	RB	1 RCHA
Graham	AA	13 Coy
Greenshield	W	4 CIBG
Grible	DL	3 Coy
Griffin	GW	3 Coy
Halliday	AG	4 Fd Wksp
Hardy	JR	4 Fd Wksp
Harper	JM	RCEME School
Haugen	RG	EBS Bn
Hennessey	RF	56 Inf Wksp
Henry	CR	11 Coy
Hewisson	RW	4 CIBG
Hill	LJF	CJATC
Hinton	WG	RCEME School
Holt	JS	HQ 2 CIBG
Hooper	TC	4 Fd Wksp
Janssen	MEJ	202 Base Wksp
Jodoin	LH	RCEME School
Johnson	GM	RCEME School
Johnson	GT	ATOB
Johnson	WA	7 Coy
Johnstone	T	4 Coy
Jones	HR	FGH
Joyner	EF	CADEE
Keating	EA	1 Fd Wksp
Kelly	M	16 Coy
Keogan	MJ	4 Fd Wksp
Kirkpatrick	AM	8 Coy
Konzuk	A	1 Fd Wksp

Class 2

Kraemer	KE	RCEME School
Krupp	HH	4 Fd Wksp
Lasuta	W	12 Coy
Lawrence	BJ	11 Coy
Leon	GR	1 Fd Wksp
Lewis	LH	202 Base Wksp
Little	JE	202 Base Wksp
MacDonald	CW	CJATC
MacLean	CB	CADEE
MacLellan	EB	202 Base Wksp
MacLeod	D	5 Coy
MacPhee	DM	CBUE
Mahood	NEH	CJATC
Main	T	1 Fd Wksp
Manning	RW	LdSH(RC)
Marin	EW	2 CIBG
Mason	J	14 Coy
Maxwell	AC	2 Fd Wksp
McBlane	AG	Alta Area 'I' Staff
McCormack	CB	7 Coy
McDonald	DW	C&D Estb CAS(W)
McDow	KA	AEEE
McElroy	JC	14 Coy
McGovern	PMJ	DEE
McIntyre	WA	204 Base Wksp
McLeod	HAT	RCEME School
McLeod	MH	DEME
Measor	HD	HQ 4 CIBG
Melvin	GR	202 Base Wksp
Milne	HC	202 Base Wksp
Molnar	LA	DEME
Moore	WE	DEME
Munday	AC	12 Coy
Myatt	WC	EBS Bn
Newell	GS	202 Base Wksp
O'Grady	CL	202 Base Wksp
O'Rourke	WW	C Ont Area 'I' Staff
Patterson	MP	204 Base Wksp
Pennie	FM	11 Coy
Perrier	LG	202 Base Wksp
Perrin	WG	202 Base Wksp
Phillips	EW	RCEME School

Class 2

Pineo	MC	EBS Bn
Pirt	KMC	4 Fd Wksp
Press	J	AEEE
Price	EC	4 Fd Wksp
Proud	VS	204 Base Wksp
Rawling	GW	D Pers RCEME
Reid	FL	202 Base Wksp
Rhodes	AP	204 Base Wksp
Richardson	PH	8 Coy
Robertson	DW	1 Tpt Coy RCASC
Rodd	EL	2 Fd Wksp
Ronan	JM	DEME
Russell	MM	13 Coy
Schleifauf	GH	C&D Estb CAS(W)
Sedger	CA	11 Coy
Seeley	HR	HQ Cencom
Simpson	WG	2 Coy
Smith	GE	DEME
Smith	J	202 Base Wksp
Smith	NC	DEME
Smyth	WC	204 Base Wksp
Sochasky	CN	C&D Estb CAS(W)
St Germain	NJ	DEME
Stever	JD	202 Base Wksp
Stewart	GG	202 Base Wksp
Starbo	RM	13 Coy
Taylor	CE	4 Fd Wksp
Taylor	HE	EBS Bn
Taylor	JF	1 Fd Wksp
Thibaudeau	AE	202 Base Wksp
Thomas	R	7 Coy
Trattles	EW	CJATC
Trinca	JL	8 CH
Walker	J	202 Base Wksp
Warminton	JW	3 Coy
Weaver	CR	DEME
Wild	EB	13 Coy
Wood	WJ	2 RCHA
Woodrow	JA	56 Inf Wksp
Wright	EO	RCEME School
Wright	EG	HQ Eascom
Young	RJ	11 Coy

WEARING OF MEDALS

The misconception that medals worn by fathers may be worn by their sons on the right breast is widespread in both military and civilian circles. There is nothing to support this belief, however, as medals are only to be worn by the person who earned them.

Medals of deceased officers and men, including the Victoria Cross, are usually given to the closest relatives, but this does not imply that they may be worn by such persons.

-- Major WB Armstrong (Retired)
in Canadian Army Journal

FLYWHEEL TO CRANKSHAFT BOLT TORQUE INCREASED TO PREVENT LOOSENING - 1964 Series 1000 Sedan Equipped With Six-Cylinder Engine

In order to prevent loosening of the flywheel to crankshaft attaching bolts, the flywheel bolt torque has been increased in Production on the six-cylinder engine to 60-70 ft. lbs.

The revised torque specification should be used in the event loose flywheel bolts are encountered in the Field and can be used in Service for all in-line or V-8 engines.

PARKING BRAKE PEDAL DOES NOT RETURN TO RELEASE POSITION AFTER APPLICATION - 1964 Series 1000 Sedan

After the start of 1964 Production, the parking brake assembly was changed on the above model vehicles. With this new assembly, the parking brake pedal does not return to the released position after the brakes are applied.

These units are not defective and must not be replaced because they do not incorporate the return to the released position feature.

BURNED ENGINE WIRING HARNESS DUE TO GROUNDING OF DELCOTRON BATTERY LEAD Sedan And Trucks All Models Equipped With Delcotron Generator

It has recently come to our attention that it is common practice for some technicians to remove the battery lead from the Delcotron "Bat." terminal without disconnecting the battery cable from the battery.

This is a potentially dangerous practice and should be discontinued. At all times when the battery is connected to the vehicle electrical system, battery voltage is applied to this battery lead. If the loose end of the wire should contact a ground surface (sheet metal, Delcotron frame, manifold, etc.) severe arcing will occur, and there is a definite possibility of burning up the engine wiring harness.

It is therefore, strongly recommended that the battery negative cable be disconnected before attempting to disconnect the Delcotron battery lead. In addition, when performing tests on the charging circuit, it is essential that rubber insulators are in place over instrument clips to insure that the battery lead cannot accidentally contact ground.

FIELD RELAYS BURNED OUT - 1964 Sedan And Trucks All Series With Two Unit Regulator

Examination of a number of voltage regulators replaced under warranty indicates a large number of burned out field relay windings.

The most probable cause of burned out field relay windings is very high voltage, caused by a grounded field or operation of the Delcotron generator under open circuit conditions.

In the event that a field relay fails by burning up, it is essential that precautions be taken to insure that all Delcotron generator connections, firewall connections, junction blocks (horn relay, fender skirt junction, etc.) connections are clean and secure.

The engine must never be operated even momentarily with the output lead disconnected. When performing checks on the charging circuit, always make sure that test leads are firmly connected so they cannot be accidentally disconnected while working around the vehicle.

A number of voltage regulators examined have the contact arm of the field relay burned off. This is invariably the result of a grounded field. Further examination has revealed that the majority of these failures were caused by removal of the regulator cover while the charging system was operating, causing the cover to contact the stationary contact bridge and the regulator base, and thereby grounding the field.

Under no circumstances should the regulator cover be removed while the regulator is operating. If it is necessary to adjust the voltage setting, the engine must be shut off or the multiple connector removed from the regulator whenever the regulator cover is removed or replaced.

SELF-TAPPING GREASE FITTINGS RELEASED FOR SERVICE - 1963-64 Series 1000 Sedan

The lubrication fitting hole in the steering tie rod sockets, front suspension ball joints, steering connecting rods are not threaded in Production nor in Service replacement parts for the above models.

Self-tapping lubrication fittings have been released for Service under part numbers 9417901 (straight) and 9417903 (90°). It will be necessary to use the self-tapping type lubrication fittings on all replacement parts not incorporating a threaded hole. The self-tapping fitting may also be used for parts having a threaded lubrication hole.

A torque of 40 to 60 inch pounds is required to install the self-tapping lubrication fittings.

CHEVROLET WIRING DIAGRAM CORRECTION - 1964 Series 1000 Sedan

It has come to our attention that several errors exist in the wiring diagrams in the 1964 Chevrolet Shop Manual Supplement.

Fig. 82 on Page 9-51 indicates the uppermost wire from the directional signal switch connector as being 20 B/Y. This is incorrect and should be 20 PPL, as shown on Fig. 81. In addition, the feed wire to the gas gauge dash unit is shown as 20 BRN. This should be 20 TAN.

The illustration of the voltage regulator internal circuits, shown in Fig. 6 on Page 9-5, is also incorrect. The lead from No. 4 terminal should be shown connected to the lead going to the vibrating contacts, as shown in Fig. 15 in this item.

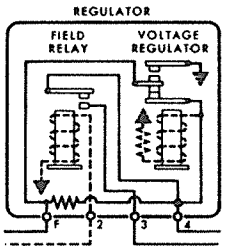


Fig. 15.

DELCOTRON UNITS STAMPED WITH SOURCE PART NUMBER IN PLACE OF DELCO-REMY PART NUMBER - 1964 GMC Trucks - All Models Equipped With 37 Ampere Delcotron Generator

A number of the standard 37 ampere Delcotron units used on the above models, have been stamped with the Production part # 1828194, in place of the Delco-Remy part # 1100668. These units are otherwise identical in all respects.

The Service parts and specifications for unit # 1100668 will, therefore, apply to the units stamped with the Production number. All future Production will be stamped with the correct number.

Fig. 18.